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GENESIS

A Manual for the Instruction of Children in Matters Sexual

For the Use of

Parents, Teachers, Physicians and Ministers

BY

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With Nineteen Cuts, Forty-seven Drawings, in the Text



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Dedicated to my Baby Daughter

IRENE V. TALMEY

The Author

PREFACE

A CASUAL conversation with a relative whom the author has visited in a New England town, was the incentive for the writing of "Genesis."

She accidentally mentioned that her eldest daughter had just lately reached puberty. When the mother was asked whether the significance of the phenomena of puberty had properly been explained to the child, the answer was that she could not do it, and that whilst the necessity of an explanation was plain to her, she lacked the requisite knowledge to enlighten her child.

Upon his return to New York the author began to ransack the great libraries of the metropolis in search of a book of instruction in sex matters, which he could send to his friend. He found scores of such books full of high moral sentiments, and teeming with excellent suggestions for the instruction of the child on this subject, but nothing quite adequate or satisfying.

The writers all agree on the necessity of instructing the young. There exist only some differences of opinion about the instructor. Some

maintain that the parents should instruct their children while they are still at home with them. Others claim that the teacher in school and the minister in Sunday school are the proper guides in these matters. Others again think that the family physician could do the most good by a few serious talks to boys and girls before they go out into the world to enter college or a business career. But somehow it seemed to the author that all the treatises he has had the opportunity to read were more or less polemic in character. The suggestions of these authors, excellent though they be, are somewhat general in their scope and a little too vague to be of great service.

To be quite frank, the majority of parents are not far enough advanced in culture to be greatly served by a few hints. They need a detailed lesson. Even the teachers need a guide to follow. The physician knows his anatomy and physiology, but is deficient in pedagogy, while the minister may have pedagogical knowledge, but has little or no knowledge of physiology and anatomy. Thus all the four natural instructors of youth need a manual to guide them in their task.

For this reason the author has set out to supply the want by writing a manual for the instruction of children in matters of sex. In the first, the general, part the author, too, has tried to contribute his mite to prove the necessity of instructing the young in sex matters. This section is

naturally more or less a repetition of what all the other authors have said on this subject. The five lessons in the second, the special part, will be of some service to all classes of instructors. The first two lessons are, in the nature of things, only for parents or guardians of infancy and early youth. The two following lessons may be made use of by cultured parents, but they were written mostly as a guide for teachers. It is not the author's intention to give teachers lessons in botany and zoology. It is presupposed that teachers possess the proper knowledge of natural history. But they do need a hint in their choice of that part of this science which will best serve the particular purpose. The fifth lesson will be of value to the physician in his talks to the growing boys and girls when going out into the world, and to the minister of the gospel while preparing the children for confirmation.

New York, June 1910.

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INTRODUCTION

"TO the Spirit, to Heaven, to the Sun, to the Moon, to Earth, to Night, to the Day, and to the Father of all that is and will be, to Eros." Such an invocation was possible among the ancient civilized nations. They recognized the importance of sexuality in life. They discovered in it the focus of life. For that reason sexuality among the ancients was an object of pure reverence as the fundamental force of life. The divine adoration of sex was the practice of every tribe and nation of prehistoric antiquity. With the advance of Christianity, however, until recently, sexuality was not looked upon with great favor, and a sane knowledge of sex was assiduously withheld from the people. The result is that there is scarcely a subject so completely ignored as the sex function, although so much of the health and happiness of the race depends on it.

Yet there is nothing in the world that causes so much suffering as a want of knowledge on this subject. Through the prevailing ignorance the loathsome venereal diseases have become so diffused that, when parents are giving their

daughter in marriage, they take one chance in five, at least, of contaminating her system and that of her offspring with tainted blood. Social conditions in our great cities have indeed become so menacing that diseases of this kind threaten to bring about the extinction of entire races.

For that reason public spirited men and women in most of the western countries of Europe and in America have recognized that something radical has to be done to call a halt to the spread and diffusion of these diseases. They have formed societies for moral prophylaxis, and in their meetings the best ways and means of checking the spread of venereal diseases have been discussed. The unanimous consensus of opinion is that the prevention of these diseases can not be accomplished by laws. We may as well legislate against the law of gravitation as against the law of sex. But all who have given thought to this question agree that reasonable instruction of honest, earnest men and women will do more to reform social abuses than all written laws. There is no panacea, says the editor of New York State Journal of Medicine, for these evils but education, and an education which shall enlighten the legislator, the judge, the pedagogue and the parent. Only cleanliness of mind and body, attained by proper instruction, will prevent these diseases. This instruction, all agree, must begin in childhood. Knowledge of personal hygiene and of sexual

physiology should be imparted to all children and should be begun at an early age. Systematic instruction, as to the best safeguards against the dangers, should be given, so far as the age of the child will permit, and the great evils caused by venereal diseases should be explained to older boys and girls.

Education should not be limited to intellectual or mental training alone, but should aim at the whole manner of life, physical, psychical and social. Education comprehends all that series of instruction and discipline which is intended to enlighten the understanding, correct the temper and form the manners and habits of youths and fit them for usefulness in their future stations of life.

These sentiments are shared by all thinking men and women. They are all unanimous in the opinion that young men and women need the training in matters of sex in order to acquire true relations toward each other and toward their offspring. All serious men and women agree that the masses need leading and guiding and constant suggestion. August Conte says: Our hearts are so fickle that society has to take a hand to curb inconstancy and caprice which would cause human existence to degenerate in a series of aimless and unworthy experiments.

When the question of the necessity of instructing the youth in sex matters is answered in the

affirmative, there arises another question, how shall the knowledge be imparted? The scruple that enlightenment improperly imparted, could effect a premature awakening of passion must be well considered. There is always the difficulty how to avoid any damage to modesty. Most writers on this subject give excellent suggestions as to instruct young people in these matters. But suggestions are of service only to those who have some knowledge of natural sciences, for those who have not had the opportunity to acquire the same suggestions alone will not do.

Here another problem arises, who shall impart this knowledge to our youth? Parents and teachers who ought to be the natural instructors, are not prepared to throw light on the subject. At the thought of their duty they have a painful feeling of helplessness. For they too have been brought up in the atmosphere of traditional sex morality. Even the medical profession, which is the only class that is conversant with the sexual question, by virtue of its anatomical and physiological knowledge, and is well aware of its hygienic, sociological and ethical importance, is embarrassed because of a lack of special pedagogic experience. Prof. Buchwald says: "We physicians, although we are experts in these matters, have the same difficulties in regard to our own children as every other father or mother." Frey says: "The majority of our physicians is not able

to furnish the enlightenment that the reform of sexual pedagogy has a right to demand, although the medical man knows the dangers arising from the early exercise of the organs of generation and the diseases which result in consequence. The cause of this incapacity in medical men is lack of knowledge of sexual pedagogy."

Who then shall bring enlightenment to our youth? It certainly is not to be dealt with by those whose acquaintance with the subject is chiefly derived from blue books, reports of societies for the prevention of vice and sermons who regard every sexual anomaly as an acquired vice, to be treated with indignation.

After looking over the entire field of natural instructors we have to return again to the parents and the school. They must not allow the children to enter life without knowledge of their own bodies and without knowing those functions, the exercise of which may bring the greatest danger not only to their own health but to their descendants. The office of parents and teachers requires imperiously not only knowledge of matters sexual, but these natural teachers of our youth must learn how to instruct children in these matters. Teachers, says Stiles, can do great good when they are fully informed on this subject by a more careful watch over the children in their rooms, and by co-operating with the parents, in private instruction, in suitable cases.

To facilitate the acquisition of such knowledge, the author has written this small Manual. It is not meant to be followed as a catechism, but is intended to give parents and instructors a scheme how to speak, even with small children, about these matters.

The first four lessons are for children from infancy to fifteen years of age. The lessons are distributed according to Moll's classification of the child's age. Moll divides childhood into four periods; the age from 1-4 years is the period of the first fulness; from 5-7 years the period of the first extension; from 8-10 years is the period of the second fulness; and from 11-15 years the period of the second extension. For certain years in the life of the child show more a growth in length-extension, others more a development in fulness. The fifth lesson is given for the benefit of adolescents between 15-20 years of age.

In these chapters the subject is approached gradually co-ordinating, suiting the information to the intelligence of the child and the general development of his perceptive faculties. The instruction here given is neither superficial nor hurried. The various steps are taken with due regard to the mental and physical development of the child. The instruction must necessarily be varied to suit this or that particular case. Hence, in some places, the lesson may be a little too scientific for some parent, who will naturally omit

that part of the lesson. Parents who are versed in physical science may follow even the fifth lesson which is intended for the use of physicians and ministers only. Teachers will surely be able to follow every part of the lessons with the greatest ease.

In deference to prevailing prejudices on this subject a scientific discussion of the anatomy and physiology of the external sex organs of the human body and of copulation have been entirely omitted, to satisfy even the most scrupulous parents, who are in doubt whether they could prevent their children from leading an unclean and immoral life by silence or by judicious instruction and proper knowledge.

In any case, the author has tried to avoid fine phrases and to produce results, so that, after a careful perusal of these few lessons the parent, the teacher or, at some periods in the child's life, perhaps best of all the family physician and minister, will be able, with a little care, to give wholesome advice to the children intrusted to his care.

FIRST GENERAL PART

Chapter I.

The Prevailing Silence on Sex Matters.

LIFE'S paradoxes are many, but none so striking as those relating to sex. Sexual passion is the highest and most sacred one. It is the passion of creation, the most important function in the universe. Sympathy, affection, fidelity, sacrifice, indeed, all those noble traits included under the term of altruism, spring from the reproductive instinct. From fission to parturition, reproduction is self-sacrifice, says Hutchinson. In its just appreciation the civilized world considers matrimony holy, the greater part of Christianity has elevated the same to a sacrament. Still every mention of the sexual function has been declared taboo. We are constantly fed on stork tales. Even the professors at our medical schools dare not teach or explain the physiology of sex to their students. They speak of digestion, of motion, of growth, but they halt at the urinary secretion because of the propinquity of its organs

to the organs of sex. Like the os innominatum, all the organs of this neighborhood have been made nameless. The traditions, sentiments and views of a time when sex life was considered sinful, low and bestial, unworthy of human beings, are still in vogue, and schools and universities are dominated by this conventional morality. The bare mention of the subject of sex is, therefore, branded as obscene. The very discussion of this question is surrounded by the gravest difficulties, hedged about by a silence that is criminal. Everything in relation with propagation in man and animal has become a "noli me tangere." The representation of the sex function has reached such a state of affectation that it begs its equal. Entirely harmless words, such as womb, testicle, semen, or navel cord have been declared unfit to be mentioned in society. Matters pertaining to the generative organs, functions which were formerly discussed with perfect familiarity and directness, with no thought of impropriety or immodesty, as in the Bible and other ancient classics, are now excluded even from treatises on physiology. Thus has prudery succeeded to decree nothing so shameful as sex life, and the function of sex is considered something low, sensual and selfish. Even men professing to teach sexual matters consider, as a matter of course, that the sexual instinct belongs to the lower attributes.

Nature's first and sublimest laws have been

ignored by uninformed teachers, timidly suppressed by mistaught parents and cravenly hidden by physicians. Especially for the benefit of the child everything pertaining to sex is clothed with a garment of shame. The child has been taught diligently, by parents and associates, that certain things are immodest either to mention or to notice, and it has been made to believe that prudery is modesty and that constant consciousness of sex is innocence. Even in the exhortations to purity, the impression is given that the question of sex is unclean, something shameful and sinful.

Chapter II.

Ignorance of Parents.

THE result of the general prudery is a general prevailing ignorance of parents in sex matters. Even cultured parents lack the requisite knowledge for the education of their children in matters sexual, and shrink from the difficulty of explaining them to their offspring. After all timidity and awe have been overcome with great efforts, the parents are ignorant how to teach their children the science of sex. They are in doubt and uncertainty how to begin this task. They themselves need enlightenment. Ignorance in sex matters is handed down from mother to daughter, generation after generation, with the effect that the mother cannot speak intelligently to her child, and the parent not only dares not but knows not how to enter upon this subject of vital importance. Now, if we agree that the sex function is to be taught at all, the first lessons must be given by parents, who, by virtue of their relationship, are most fitted for the task. If the parents are ignorant of what to say, or how to fulfill the task, then it becomes necessary that the parents themselves be taught first, before they, in turn, can teach their children. If the parents

are ashamed to say anything to their children, or if, in their prudery, they are not able, under any circumstances, to speak openly and naturally about natural things, they must ask the minister or the family physician to do so. The latter, by virtue of his profession, may tell the child what it should know, without fearing to hurt the child's modesty. In many cases parents cannot be taught how to impart information because they are of too low an order of intelligence to give instruction, even if they appreciate its value. In such cases, where we cannot rely upon home instruction, it becomes incumbent upon the school to teach the child that the law of sex is the most important fact in life.

Many parents, moreover, are not able to instruct their children because they lack the necessary tact, and often the moral maturity. There, again, it becomes the duty of others who have the child's confidence, as the teacher or the physician, to inform the child. Bjoernson says: "Education that would accomplish anything in this respect presupposes, as an unavoidable necessary condition, complete confidence between child and parents, or at least between child and mother; or, to express my thoughts more clearly, between the child and him who has gained its greatest confidence. If neither mother nor father has done so, which may easily happen, then somebody else must be found who will be able to win the child's confidence."

Chapter III.

The Alleged Evil of Education.

BOTH school and home are equally guilty of neglect in respect to sex instruction, and the home bears the greater burden of blame, and in the home the mother who has the child near her most of the time, is the chief offender. It is not always a sense of incompetence that makes parents shirk their duty. Many a parent does it from the atavistic impregnation of his mind with the idea that such information is not proper. Parents look upon the veil, covering all these matters, as a benevolent arrangement of nature, founded upon the conservation of the sense of shame for a later period of man's life. They raise the objection that early education would precipitate the evil. They are scared away from the discussion of this delicate question, because they believe that in talking openly to their child they are apt to put wrong ideas into his head which would, perhaps, never have had lodgment there. The little angel is considered too pure to have his mind sullied with the mention of such vicious subjects.

This timidity on the part of the parents is quite natural. They attribute unconsciously their own

adult sentiments to the child, when they emphasize the delicate nature of the explanation of sexual matters. It is only their own consciousness in regard to this question. They shift their own prejudices on to the child.

But the prudery is in our own mind, and not at all in that of our children. There is no element of pruriency in the mind of the child. It never thinks of blushing or laughing at natural phenomena. Children, says Lejeune, have the privilege to meet with vice and still not understand it, provided their nature is good, and they live in an honest and respectable environment. A child's clear mind knows no embarrassment until the clouds in some older one throw their shadows there.

The sense of shame is not innate in the child. It does not know anything of shame. Even children, whose consciousness is completely awakened, have to be properly taught in regard to the cultivation of the sense of shame. When the child comes to his parents for enlightenment in matters sexual and he receives a stern rebuke because his questions are improper, immodest and shameful, he does not understand it. Children do not see why they should not lift their garments and uncover their genitals; why they should not ease nature on the streets; why they should not play with their organs, and why they should not speak of them and their functions in the presence of others.

The sense of shame begins to develop in the

child not earlier than the third year, and until the sixth year it is very slight. When the child begins to ask upon the arrival of a new-born baby in the family, or in the family of a neighbor, an event of such importance in his life, about the origin of man, the question is caused by the child's desire of knowledge about everything around him, and not from prurient curiosity. We need only to observe children to become aware that the desire to know is one of their most prominent characteristics. When the child craves knowledge it is merely yielding to the instincts of nature seeking after truth. The child's psychological sex neutrality receives no limitation by this question. We could, therefore, discuss with the child matters of sex, as we discuss matters of digestion, with absolute freedom from all lascivious feelings. Instead of speaking with candor, when increasing power of observation and judgment awakens in the child the desire to obtain information about certain things, we commit the great mistake of putting him off with false statements and nonsensical assertions.

About the age of six years, doubts of the correctness of the tales, hitherto believed, begin to arise in the normal child. If a sense of false modesty prevents the parents from giving any instruction to their children upon sexual matters, secretiveness will only excite their curiosity and lead to fanciful thoughts. There lies for the psyche something tormenting in secrecy which presses for some

kind of explosion. When the object of desire and feeling is covered with secretiveness by parents and teachers, then curiosity is the more excited. Forbidding to speak about sexual matters causes rather the mind to occupy itself with this subject and awakens the morbid curiosity regarding the mystery of sex. It may be put down as a rule that the less the child speaks of it the more he thinks of it. Natural candor will, therefore, not direct the child's mind to sexual matters, for the child is already occupied very much with them, only in a prurient way. With our fig-leaf policy we only call the child's attention to the fact that there is something to be concealed, and this excites his fancy and interest in the other sex. But if the child becomes accustomed to consider sexual matters as something quite natural, they will excite his curiosity to a much lesser degree later on, because they have lost the spice of novelty. The sex problem, says Ruggles, will be robbed of that mystic secrecy, that odor of forbidden sweets, which engenders lascivious thoughts and the delight of obscene stories. The mysterious charm in which sexuality has been shrouded, the nimbus of the romantic and interesting with which sexual matters have been enveloped, are conducive to the premature establishment of sexual proclivities. It is a physiological fact that accurate knowledge on these points excites the least those pupils who were instructed in these matters before their sex-awaken-

ing. For habit always diminishes the erotic effect of certain perceptions of the senses, and inversely, eroticism or sexual desire is especially excited by unaccustomed perceptions or images relating to the other sex. Hence the mind of the child, fortified by sound instruction from his parents, is better guarded against the poison of evil. Knowledge and candor never lead to ruin, but secretiveness which causes awakening of curiosity and desire. Chastity does not thrive beneath fig-leaves, but prudery and lasciviousness do, for prudery covers, and the cover causes lasciviousness. The fig-leaf commences, says Hutchinson, when innocence ceases. Before man's fall in Eden the fig-leaf was unknown. Nudity never causes sexual excitement in the child or has any moral influence upon him. The undercurrent of erotic exaltation is entirely absent in the child; hence the earlier nudity in art and nature is shown to him as something self-understood, the less he will think about it, and the later the sexual feelings will be awakened. If the child is accustomed, says Forel, to the sight of nudity, in adults of his own sex, he will see nothing peculiar in his own sexual organs and pubic hairs when they develop, while children brought up with strict prudery and in complete ignorance of sex matters often become greatly excited when their pubic hairs appear. They feel ashamed and at the same time erotic. When they are not prepared, boys become greatly excited at the first seminal

emission, and girls still more at the first appearance of menstruation. This great shock of the growing child is caused by the parents having erected a barrier of shame around sex. Yet there is no reason why we should not have a feeling of pride instead of shame. To be proud of one's body, and to consider it sacred, would protect us far more than shame.

Chapter IV.

Impossibility of Maintaining Ignorance.

THE aim of most parents is to launch their children into the world in a state of edenic innocence, and there is nothing more fatuous than their illusion that they succeed herein. If instruction is not given by those authorized to give it, it will be given by those not qualified to instruct, and with pernicious results. If we do not teach our children, they will learn much sooner than we think. Delay is fraught with much danger. We must not procrastinate in this matter. Haste is necessary, for the germs of onanistic impulses, homosexual desires and sadistic, masochistic and fetichistic inclinations are often inoculated at a very tender age. If the parents do not teach their children, others will. The schools of instruction are numerous; they are found in the servants' quarters, the streets, obscene literature, etc. There is no question that children, even of tender age, know a great many things in this respect. They talk about them, although they are not acquainted with the technique and the minutiae. Only too frequently lads in their early teens are guilty of conversations, replete with unpublishable anec-

dotes. The average child in the city, between the ages of ten to fifteen, knows things that would make his parents' hair stand on end, if they supposed for one moment that their child is conversant with such matters. The parents err when they think that children between ten and twelve years of age are totally ignorant of sexual matters, even if they are watched ever so much. The intelligent child learns of these things by observation. Kemsies says: Ignorant children in these matters are the great exception.

It is, therefore, not possible, even were it desirable, to preserve a state of infantile ignorance, which parents too often confound with innocence. Hence the question is not whether it is better for the child to know or not to know, whether the child's mind shall or shall not be kept blank with regard to this side of his nature, this is something that is not possible. The question is whether it is better to know things right or to know them wrong; the question is what kind of thinking shall the child do about it, correct or erroneous, what direction shall be given to his or her impulses. Shall the thinking be guided by parent and teacher, or shall the child wander haphazard until shaped by degenerate and shameless associates? There is no escape from the alternative. Rousseau says: It is of great importance to leave nothing to chance, and, if we are not sure to be able to keep our child in ignorance about the difference of sex until the six-

teenth year of age, then we have to see that he knows it before his tenth year.

The child will naturally come to his parents for enlightenment, for the budding nature of youth stimulates an abnormal curiosity. If the desire for information is met with sympathy instead of censure, frankness instead of evasion, truth instead of falsehood, then the child will receive the knowledge of the structure and functions of the human body, gathered from biologic and physiologic investigations. He will learn of the sexual impulse and its function as preserving the race, and he will comprehend the soul of man and its relation to the sexual sphere with its natural phenomena. But if the parents do not supply the required amount of information concerning the functions of the sex organs, and the child notices that something is concealed from him, his phantasy is put to thinking, combining and picturing, and he will not give rest until the darkness has risen. Knowledge will then be obtained through the medium of some unhallowed source, thereby generating a depraved and perverted taste for forbidden fruit. The choice between the alternative of poisoning the child's soul, and of protecting it, through enlightenment; between sound knowledge and misleading error, even if it may rob the child of some cherished illusion, should not be difficult. Even those who believe in the ideal of illusions admit that they are here impossible. It would be better, says Rosenthal, to

preserve our youth in purity and innocence; for "error is life and knowledge is death," but the youth cannot be kept in ignorance for any length of time, and through deep secrecy the character of obscenity is given to the sex impulse. Secrecy promotes lustfulness and sensuality. Knowledge, therefore, is absolutely necessary, and to the parents the children ought to look, if they are to learn matters of sex without shock to their sensitive and growing mind.

Instead of the proper instruction our children have been left to gather their knowledge of the functions of life from those who have learned them in illicit ways. Our youth has to draw from secret contaminated sources when it seeks enlightenment. Instead of information, giving the right idea about the wonderful contrivance of nature for the propagation of the species, knowledge is obtained from ignorant or vicious sources. The child learns fragments of truth mixed with error and tainted with impurity.

Abundant temptations in this respect lurk in all classes of society. Nurse girls and servants bring back to the respectable home the evil associations of their own lives. When the life history of perverse patients is studied, it is discovered that the starting point of the disease was some incident of early youth in the nursery or kitchen.

Next to domestic servants the instruction of our children on the sexual question is left to depraved

companions. In our public schools are often found groups of young perverts who succeed, by cunning, in seducing their friends. The free masonry existing among boys, and in a greater degree among girls, is calculated to render the depraved ideas possessed by a few common property. *The Ladies' Home Journal* says: For absolute filth of conversation nothing could quite equal the talk of boys and girls during recess in our schools. What is still worse is that the child is generally instructed, at the same time, in masturbation, prostitution and sometimes even sexual perversity. Every father and mother, says Judge Lindsey of the Juvenile Court of Denver, Colo., may take it as an absolute fact that nine-tenths of the boys and girls in the schools in the city and country are extremely curious regarding matters of sex; and I have no hesitation in stating that boys discuss it in a most improper and a most unfortunate way. I have been amazed to find this same condition exist among girls to a much greater extent than I ever dreamed. I have learned this in the childrens' court, after repeated experiences, talking to little girls and their mothers, in the privacy of my chambers, regarding their troubles, brought to my attention by parents, officers and principals of schools.

Apart from the lessons received from uncultured and often immoral companions, or grownup servants, there is danger threatening the innocent child from libertines. The innocence of a child pos-

sesses a peculiar attraction for libertines of both sexes, who find a refined erotic pleasure and unique relish in the seduction of the innocent, in the rôle of initiator in sex matters. Fuller often encountered young men of the average age of 25 nervously and mentally wrecked, whose clinical history reads, as a rule, as follows: At the early age, ranging from 11-14 years, the boy began to practice intercourse, a mature woman having been the offender and instigator of the practice. Indecent assaults upon children, says Morrow, occur much more frequently than is generally supposed, although but few of these cases are brought to public notice, owing to the difficulty of proving the charge. In spite of this difficulty, 4,548 verdicts of guilty for the seduction of minors were found in Germany in one year—1908. A common form of indecent assault upon children is where an adult male or female permits or compels a child of either sex to perform an act of masturbation upon him or her.

In some families the child picks up his sexual knowledge, more or less distorted and inaccurate, within his own home. The child hears his elders bragging of conquests and admirers. Fathers and even mothers frequently make equivocal jokes with their children, instead of seriously discussing the sex question. Parents ought to be careful not to use even veiled language in the presence of their children. Rousseau says: Children have a par-

ticular sagacity to discover, under the apery of decency, the bad manners which it covers. The purified language used in their presence, the lessons in good behavior given to them and the veil of mystery affected in their presence are so many incitements to curiosity.

Another source whence venomous ideas are gathered are vile literature, the erotic play, obscene pictures, vulgar stories, pornographic books and, last but not least, the sensational newspaper which chronicles all the social intrigues. Such literature is spread broadcast and reaches our homes daily. Only serious scientific books on the sex question are ostracized, and their circulation among the general public is restrained, although no young man was ever led into licentiousness by reading a serious book on the physiology of sex or on the dangers of sex abuse.

Thus knowledge comes to our children filtered through the gossip and actions of servants, through the instruction of depraved comrades, through the veiled word and the sly nudge of elders, and through obscene literature, and the child finds a sort of guilty joy in his new discoveries. For secret knowledge possesses fascination. Necessarily this knowledge is of a hideously distorted character, and, through its clandestine origin is invested with vulgarity and untruth. It breeds false modesty, the pharisaical cloak of our modern civilization, degrading to lewdness the

sacred functions of man and womanhood. It is, therefore, cruelly and culpably wrong to allow children to grope about picking up half truths and distorted facts, and gathering venomous ideas from corrupt playmates, vile literature, obscene pictures, vulgar novels and unfortunate personal experiences.

In this way our youth suffers damage in soul and body, because our educators leave the discussion of sexual matters to shameless and lewd counselors of our children, instead of substituting a healthy education and discussing sexual matters openly and candidly. The budding sexual passion, kindled by imagination which ought to be made less crude, is thus left to enlightenment from turbid sources. The reason for all this is the awe of the parents to answer all questions appertaining to sex. Like the ostrich that hides its head in the sand and thinks because it can not see any one no one can see it, educators think that if they withhold the needed instruction and rigidly exclude from discussion any topic appertaining to sex, the minds of the young will remain void of all knowledge on this subject.

Chapter V.

The Necessity of Information.

THE physiology of sex is the largest and most complex, the most important and interesting of all human themes, says Hall. The sexual desires and instincts, the intensity of the same, its normal as well as abnormal directions, are of importance for the development of man's character. Candor and truth ought, therefore, to surround sex matters. Instead of this there is the traditional ignorance, false shame and prudery. We have hedged these matters around with a Chinese wall of concealment and falsehood. The result of this air of shame, thrown around the great sex mystery, is the sharpening and stimulating of the child's curiosity. Curiosity is developed because of the impression of mystery and shame that adults throw around all matters of sex, of new life and of marriage. The child wishes to know whence he came into the world, and how human beings are propagated. The child's mind is avid of enlightenment and harbors a germ of curiosity which seeks the light of knowledge. This curiosity is not morbid; it is natural. The child's questions, therefore, ought to be answered truth-

fully as soon as he asks them, instead of meeting them with lies and hushes. This method of secrecy has the certain effect of stimulating the imagination to the highest pitch. By conjectures and surmises the child's mind is transformed into a seething swirl of morbid emotions. When the child, later on, picks up a certain amount of information, which, as a rule, is entirely erroneous and provocative of much harm he keeps the same concealed from his elders. This information destroys the child's confidence and trust in his parents. Through the clouding of the pure sense for things natural the child is shocked at the thought that his parents have been parties to some wrong when it was conceived. After this experience the child confides his troubles to strangers, instead of consulting his parents. Indeed, his parents do not merit his confidence. During all the early years of his life they have, out of a false sense of prudence, reared him in ignorance.

This state of affairs is certainly not favorable for healthy development. It is, therefore, a cardinal sin against youth to deny it the knowledge that would safeguard it against ignorant exposures to all the dangers of sex life. Björnson says: If I learn in my early youth the elements my body consists of and the mechanism of the same, if I know the harm and good I could do, not only to myself, but also to those to whom I shall give life, some future day, and who will depend on me, this

very knowledge is not only faithfully watching over me but, as a rule, also fortifies and strengthens my will to follow my better judgment. Nothing awakens our responsibility in a higher degree than the insight into the nature of things. But this knowledge should not come too late. We must, therefore, remove the false modesty which now surrounds this subject. We must endeavor to tell the truth in a manner suitable to the child's age. We must not suddenly tell the truth with brutal candor and fanaticism, the truth as yet incomprehensible to the child's intelligence, but we must so instruct him that in the course of a decade the child will learn by degrees to comprehend and understand the truth. We must follow Lessing's teachings: The child must receive the truth, nothing but the truth, but not the entire truth, not the whole truth at one and same age of the child, when he is not yet fit to receive the whole truth, but always the truth when he begins to look for the truth. As soon as the child begins to ask questions, and doubt commences, it is the highest time to enlighten him about the origin of life on earth and thus awaken in him ethical conceptions.

The present conditions of life demand that we should not delay this teaching and wait to see how the youth of the land undermines systematically its intellectual and moral potencies and sins against its own body. Evil influences are at work, a grad-

ual process of moral deterioration in the natural growth of sex corrupts the very young. This can only be prevented by instructing the children betimes in sexual questions, a duty necessary in the name of hygiene and morality. The concealment of everything in relation with the origin of man is the cause of our present social conditions. One-half of the ills of humanity is due to incomplete knowledge or ignorance. If we wish to purify sex life and prevent the growth of immorality and of a foul atmosphere of thought, our explanation must be clear and plain without any trace of reluctance, wavering, or refined ambiguity. Early training through innocence into virtue is an absolute necessity. Only one thing can prevent excesses, namely candor, unreserved candor, at home and in school.

The first menstrual occurrences in girls and the first nocturnal pollutions in boys may give rise to ideas which, without proper explanations, may take a wrong and often even a diseased direction, while education wherever hereditary disposition presents a normal average—schools can not cure a pathological sexual hereditary mneme, whether it consists in perversion, precocity or some other vice—can do much to avoid pathological errors and habits by guiding the sexual appetite in a healthy direction and by avoiding excesses. But it is not cold moral preaching that will help us. Sentiments of high toned morality do not cure

the social evil. No one has ever been saved from moral perdition by bathing suit prescriptions. We need warm altruistic feeling which alone can act as a moral educator of children. There is an increased desire for truth, founded upon progress in knowledge. Of primary importance, says Spencer, is that knowledge which ministers directly or indirectly to the maintenance of life, and next in importance that knowledge relating to self-preservation or parentage, which prepares for the creation and rearing of offspring.

Chapter VI.

The Evil of Ignorance.

NOWHERE are the sins of omission in education more relentlessly avenged than in sex life. What is the source of life and ought to be the source of pure joy and happiness for man and woman has become a turbid stream of poisoned feelings, through our system of secretiveness. Our prudery and vague moral preaching are of no effect, especially when we have to contend with precocious sexual appetite.

Masturbation is often started very early in life, even before the first year has passed. This early beginning, apparently spontaneous, is often immoderately practiced on account of the limitless opportunities afforded.

Onanism is usually provoked by irritation at the peripheric region. The boy who has the impulse to touch and pull everything will surely play with his little organ. Sometimes there is a phimosis or an inflammation of the prepuce; in girls there is uncleanliness in the vulva, or worms. All these anomalies cause itching, which drives the child to touching and rubbing these parts. These manipulations cause an agreeable tickling sensation

and awaken a feeling of lust. This feeling operates in the memory and excites to a state of activity before sexual consciousness has had time to be awakened.

Sometimes servants and nurse-girls, either to quiet the child or out of lust and ignorance, tickle the child's genital organs or gently slap the gluteal region and thus awaken a lustful feeling, which later on drives the child to renew the manipulation without external cause. In this way masturbation is found in the best and purest homes, and no one should take it for granted that his child is too nice and good to be addicted to such practices.

Now, masturbation leads to excesses, because it can be exercised at any time, in every place, and without any external help. If excessive masturbation is continued for a considerable length of time, children become pale and anaemic, have dark rings under their eyes, are easily fatigued and suffer from headaches. Their sleep is broken, they are quiet, reticent, absentminded, easily embarrassed and not companionable to other children. In older children masturbation causes depression, vertigo, palpitation of the heart, a blinding feeling in the eyes, photophobia, light-points and functional sex disturbances, as day-pollutions and spermatorrhoea. Another fatal result of masturbation is that many a boy, enmeshed in the toils of this solitary habit, seeks escape in licentious intercourse.

Most boys are driven to an early exercise of the sex functions through mere curiosity. The instinct of imitation also plays an important rôle. To appear manly also leads a young boy to masturbation. The fear of not doing as the others, and especially the terror of ridicule constitute a powerful incentive which leads to abuse and extravagance. Through teasing and mockery a youth is the more easily seduced the less he is put on guard by parents and friends. In the same way is ignorance of sexual questions frequently the cause of innocent girls being led to ruin. Scarcely any one realizes the appalling number of school girls who are ruined during their school days. Instead of explaining to her seriously and affectionately the nature of sexual connection, its effects and dangers, the girl is exposed to the worst temptations. The girl needs to know that impregnation and conception often follow the sexual act. Instead of this necessary knowledge we find in maternity hospitals many a girl who has submitted to the act without the slightest idea of the probable results.

It is, therefore, necessary to take measures in time and not wait until our boys are seduced by evil companions or erotic women, and our girls by evil persons of either sex. Every girl ought to know the consequences of indiscretion, and every boy the dignity of virility and his duty toward every woman. He should be taught the

healthfulness of continence and the advisability of sexual control.

Ignorance is not an ideal any way. Ignorance, says Mayreder, is only a cheap substitute for innocence and is able to feign the semblance of innocence to the superficial observer. Besides, innocent natures fall more often a victim to seduction. The boy ought to know the dangers of an illicit sexual life. With the appearance of syphilis, at the end of the fifteenth century, every deviation from the monogamic relation is a danger to health.

Worse than syphilis is gonorrhoea. It has the most lamentable results among the female population. Gonorrhoea, says Morrow, overshadows syphilis in importance as a social peril, because of the tendency of the gonococcus to invade the uterus and adnexal organs with results often dangerous to life and destructive to the reproductive capacity of the woman, and because of its conservation of virulence after apparent cure.

A man with an uncured gonorrhoea or with a secondary syphilis in full activity may marry and his wife escape contamination, but this is the exception. As a rule, on the wedding night, she will receive unsuspectingly the poison of disease which may seriously affect her health, kill her children or extinguish her capacity of conception. Such a woman's life is ruined, even if she escapes serious disease to her own body, for the instinct

of maternity is implanted, by nature, in every normally constituted woman.

Now, when we consider the fact that about twenty per cent. of all venereal infections occur before the nineteenth year, i. e., in mere children, the fatal results of ignorance are easily seen. Indeed the universality of masculine unchastity is only founded upon ignorance, and the false and erroneous ideas of the nature of these diseases and the dangers of promiscuity. It is scarcely believable, says Hegar, how nowadays, when the dangers of promiscuity is so well established, any one could expose himself to these risks. There is only one explanation that the people are ignorant on this point, and that their conceptions about the evils of promiscuity are somewhat hazy. Otherwise only culpable stupidity or stupid frivolity could neglect these scruples. A French nobleman said to his son, who was going to leave his home for the big city: "Si vous ne craignez Dieu, craignez la vérole." "If you are not afraid of God, fear at least syphilis."

The irony of fate is still greater in so far as women themselves regard men's indulgences as an harmless "sowing of wild oats," provided the man is single. They forget that no one plays with impunity with fire and that these men's victims will, later on, be young and virtuous wives in wedlock. It is then too late for them to amend their mistakes except by separation. The

fact that two-thirds of divorces in this country are sought by women, says Morrow, shows that the number of separations and divorces—although other reasons are given—on account of marital infection from venereal diseases is much larger than is commonly supposed.

Chapter VII.

The Degradation of Sentiment.

FOR those young men who accidentally escape infection, yet another danger lurks, degradation of sentiment by the long association with prostitutes. This degradation is seldom entirely effaced and generally leaves indelible traces in the brain. In wedlock the lack of change keeps away all unsound excitations, while the man who has long been accustomed to live with prostitutes is always in eager quest of fresh stimulants. The animal nature gains ever increasing dominion of the moral life of the individual. When the limit of dissipation is reached, there comes disappointment, disgust, restlessness, dreariness and bitterness. The individual becomes selfish and cruel and becomes unfit to establish a family.

To be sure the virtuous girl has a certain fascination to the most dissipated youth, but it is only for a passing moment. The intense craving awakened in the youth for something far more exciting than she can offer leads him ever farther from her side where this morbid fancy can be satisfied. For the modest grace of pure womanhood can not for a moment compare with

the force of attraction which the excitement of debauch and sensual indulgence exert upon a reckless pleasure-seeker who is accustomed to such intoxication. In this way all young and pure women, even of the middle and upper classes of society, are brought in direct competition with vice.

To this competition may directly be traced the faults now so often charged against young women, their love for dress, luxury and pleasure, their neglect of economy, dislike of steady home duties, etc. For to keep pace with the prostitute the pure woman is obliged to do as she does and be extravagant as she is. This extravagance in all classes of society, on the other hand, becomes the strongest provocative to vice, among young girls, and makes prostitutes out of the servant, seamstress and pretty shop girl. In this manner a vicious circle is established.

All these evils are directly the result of ignorance, which sanctions a custom insulting the family, degrading the natural nobility of the human sex function, sneering at it, and treating the great principle of life with flippancy. Ignorance of sex, therefore, is a great crime against society.

Chapter VIII.

Moral Confusion.

THE unnatural education in sex matters is responsible for the fact that a complete moral confusion meets the child at the outset of life. There is no fixed standard of right or wrong, regarding sex, and no clear ideal is held before him. Religious teaching and practical life point to different directions. The difference between the fictitious side of life and real life is enormous. Church and school promulgate the view that the sexual impulse is the emanation of our carnal nature, and, therefore, depraving, sexual indulgence being allowed only so far as it is required for the preservation of the species. The ineffaceable impression is given that the system of generation is a system of shame. This impression, deepened by what the children hear from secret sources, is apt to dominate their mental attitude through life.

But though this reprehensible sex-sensitiveness may be lauded in the verbiage of purity, the instinct of sex exists as the indispensable condition of life, and the foundation of society. It is the strongest force in human nature and can not be

banished by virtuous platitudes or moral snobbery. Besides the innate instinct there is the thousandfold example of the world around us in entire contradiction with the teachings of the church and school.

Between these two extremes our growing youth has to contend with. He naturally chooses the one according to his nature, especially after he has lost all confidence in his parents and teachers when he has found out their lies. When the growing mind of the child seeks explanation as to the birth of babies, even in this enlightened day, he is answered with evasion and falsehood. Nothing is more calculated to destroy the child's confidence than this. Many a young girl, upon first learning from some elder companion of her own sex, or, by insinuations of some vulgar neighbor's boy, the truth of sex, has become horrified at the thought that her beloved mother has lied to her. Many a child is dismayed at the discovery that he has been deceived, and his family has received a blow that no after-years can efface.

The results of the lies and the shaken confidence in parents and teachers are certain erroneous ideas of the sex functions which are most pernicious in their influence upon character and conduct. The real purpose of the sex function is entirely forgotten. Chastity is declared by the modern radical to be impossible. The purpose of the sex function is proclaimed to be sensual

pleasure. This modern school preaches that one has a natural right to indulge his sensual impulse as he pleases. They call it in German "sich ausleben," and claim that such indulgence is a physical necessity, essential to the preservation of health.

This perverse, unnatural education has, furthermore, caused in large circles of peoples a kind of a perverse sense of shame. The mere nude arms or legs of a small school girl, the furnishings of a public bath-house, the naked limbs of a Tirolian peasant, or the grandest works of art awaken in them lascivious thoughts.

Especially early masturbators show a depraved sense of shame. Nothing, says Krafft-Ebing, is so prone to contaminate and, under certain circumstances, even exhaust the source of all noble and ideal sentiments which arise from a normally developed sexual instinct as the practice of masturbation in early years. The false sense of shame causes, by the secretiveness in our education, this modern fig-leaf modesty and prudery which attributes a particular obscene meaning to everything sexual. It has created that diseased imagination, depraved beyond all hope, which can find any prurient gratification in the cold chaste nakedness of ancient marble. Individuals with such traits are accustomed to interject their own diseased imagination, guilty conscience and obscene sentiments into the purest artistic creation.

These diseased sentiments have created the fig leaves in art, be they sculptured, painted, written or spoken. But their aim to conceal by these coverings is always frustrated. For by drawing attention to what they conceal underneath they awaken lewdness and excite sensuality much more than does simple nudity.

Worse than hypocrisy in art is the prudery so lamentably manifested in daily life. The girl who blushes the most readily and hangs her head in shame at the slightest indiscreet word usually offers the least resistance when one gets her behind the door. When she blushes at the word "leg" she generally has cause to blush for something more tangible than the utterance of a word. She is the one who constantly wears the placard—"I am a woman and you are a man." The truly modest girl talks to a young man as if he were another girl, or she another man.

Aside from the damage to youth in its later periods of life, through this prevailing secrecy in matters sexual, children begin to suffer very early in life. The researches of Freund have shown that early childhood—until the sixth year—must be considered as an exceptional epoch in sex evolution. The impressions of this time, although they play a small rôle in our conscious thoughts later on, still decide our entire future development, especially in regard to sex. The sex impulse of most men takes its form and direc-

tion in this epoch. If the child is not properly taught, the result will be masturbating practices, a bodily deterioration and a nervous exhaustion of the whole physical force.

The important relations of the sex function to mental and physical development are well known. The effects upon the mind are often more marked than upon the body. The disorders are in many cases the causes of backwardness of children. They are apt to be restless, dull or listless, with inability to concentrate their minds upon their studies.

Chapter IX.

The Change of Policy.

THE preservation of the race requires, on the one hand, that the sexual impulse should have an immense force, on the other hand, it is necessary to oppose strong dams to its rapid streams. This necessity has become more and more recognized in certain circles in recent years. Interest in sexual pedagogy is becoming more pronounced, as is shown by the enormous increase of literature on this subject. In former years we acted like the ostrich, who hides his head in the sand and thinks danger has now passed. But nowadays we recognize that it is time to come out of the swamp into which our ideas of sexual life have sunk. Through the growth of large cities immorality is on the increase, and correspondingly the general appreciation of the importance of the theme is also on the increase. We already see a revolution at hand. The tenor of sentiment is changing, and a wave of sex education has already begun to spread through the progressive countries of the world. Sexual enlightenment whizzes through the air, and expressions which in former days we dared not even whisper, only

holding our breath back, are now current coin in the conversation of numerous parents, pedagogues and physicians. There is a rapidly increasing interest in all matters pertaining to public health and to the restriction and prevention of diseases. All men and women who have the welfare of humanity at heart agree upon the necessity of sexual enlightenment. The only point of contention is the knowledge in regard to copulation. Everything else, as impregnation, conception or birth have their scruples only in relation to copulation. The latter is still considered, by many people, as something offensive.

It can not be denied that this is a delicate matter to handle. Still everything may be revealed intelligently and fearlessly to the child without offending his sense of modesty. Maybe future generations will solve the problem how to instruct our children in the science of sexuality without concealing even the most delicate matter. The present generation was born and brought up under our present standard of modesty, and this fact must be reckoned with. Many things, therefore, must be omitted in our instruction of the child in order to satisfy the most conservative and fastidious.

SECOND, SPECIAL PART

Chapter X.

First Lesson: Infancy and Early Childhood.

THE aim of sexual pedagogy is to induce a healthy natural sex life. The question is how shall we teach our children the mysteries of sex life and in this way protect them first against the dangers of the habit of self-abuse and then against the dangers of infection from the virus of gonorrhoea or syphilis without awakening eroticism.

The teaching of sexuality must begin with the birth of the child, but it must differ with the different epochs of the child's life. The lessons in infancy differ from those of the other periods by being more of a negative nature. This period is the time when the child has as yet no interest where man comes from. It is the time when he has as yet no sense of shame. The sense of shame, in regard of nudity of his sexual organs, begins to develop about the fourth year of the child's life, provided he is not taught earlier. This feeling

of shame is originally without psycho-sexual consciousness. It refers not to these parts of the body as the organs of sex, but rather to the entire genito-anal region as such, which, as the place of the excretions, becomes the center of a feeling which originates from the fear of provoking disgust.

This feeling of shame, in the presence of the nude organs, begins about the fourth year of the child's age and coincides with the time when he usually puts the first question, where man comes from. The entire period previously the child is without psycho-sexual consciousness. Still the pedagogy of this early period is of the greatest importance, and the mother must be made aware of her great responsibility at this critical juncture.

The undisturbed development of the sexual organs is of great necessity for the development of the entire body. These organs are excessively sensitive and are damaged by any irritation. Their premature activity is especially detrimental to health.

At this period there can be naturally no other use than the habit of self-abuse. This habit often begins at an early age. The natural curiosity of children leads them to an examination and finally to a titillation of their private organs, often without the aid of any vicious instruction. When the child has thus found, by accident, that a certain mode of handling these organs is attended with

pleasurable sensations, he repeats the action, and the habit is established.

The habit of masturbation is sometimes contracted, in infancy, by the laxness of stupid servants or ignorant mothers. They often try to calm the infant by tickling the child's genitals. This practice causes sexual irritation and leads to masturbation.

Another bad practice resorted to by nurses and mothers is to amuse the child by gently striking the buttocks of the infant, a region which is highly erogenous. Every one who has read "Les Confessions," by Rousseau, knows how this savant, when a boy, became sexually excited when his nurse punished him by beating him upon his buttocks.

Thus nurses and even mothers innocently induce the child to the habit of masturbation. But the greater danger comes from nurses who deliberately handle the infants' organs out of lust. They touch and strike the external organs of boys as well as of girls for their own pleasure. There are few nurse-girls, says Parke, who do not delight to initiate the boy, committed to their care, in sexual matters. He relates many histories of patients who were induced to abnormal practices by their nurses in early youth. Lawson-Tait says that children ought never to be allowed, under any circumstances, to sleep with servants. In every instance where he found a number of chil-

dren affected by masturbation the contagion has been traced to a servant. Freund found in cases of severe youthful hysteria that the starting point could frequently be traced to some sexual manipulations by servants, nurse girls and governesses, He also relates several such examples.

Another cause for the habit of masturbation in infants is uncleanliness, which causes irritation. To relieve the same the child uses friction with his hands. This rubbing causes a pleasing sensation. Having made this discovery, the child begins to manipulate the organs periodically.

In little girls thigh-crossing is usually the mode adopted in the practice of masturbation, by infants, and parents ought to know what attacks as the following mean. Townsend records a case of an infant, eight months of age, who would cross her right thigh over the left, close her eyes, clench her fists, and, after a minute or two, there would be complete relaxation with perspiration and redness of the face. This would occur once a week, or oftener. Jacobi relates a case of a girl of three years who, at regular intervals, had attacks of masturbation while sitting down. She began by keeping her thighs closely joined, or crossing her legs. She then began to move and rub her limbs violently. She got purple in her face, began to perspire and to twitch about her eyes, which looked excited. She then used to lean back exhausted, sighing and breathing hurriedly.

If such actions are not recognized and speedily interupted and prevented, the child is apt to gratify himself frequently in this way until the action becomes a fixed habit with results most detrimental to the child's health. For when the sexual power is prematurely exercised permanent injury is done to the individual. A great responsibility, therefore, rests upon parents, and it is deplorable that so few know how to prevent these bad habits, which accounts for the frequency of masturbation.

Prof. Berger says: Masturbation is such a frequent manipulation that out of a hundred boys and girls ninety-nine have temporarily been addicted to it, and the hundredth, the so-called pure individual, is concealing the truth. Moll quotes a physician as saying: "Whoever denies having masturbated, has often only forgotten it." He also mentions another physician as asserting: "Whoever claims of never having masturbated is still doing it."

If such practices begin in infancy, the harm done is incalculable. Since no animal is so helpless during infancy, and none remains so long in a state of complete dependence on its parents as the human child, it is the parents' duty to protect the child against the impairment of his health. For an unimpaired youth is necessary for his development to full power and ability.

It is, therefore, the duty of parents to prevent

the proverbial nurse girl from handling or touching the infant's sex organs and save their children from becoming early onanists. In this respect all nurses, good, bad and indifferent, need watching.

It should be the rule of the nursery not to touch the child's organs or to handle the buttocks in any way, thus avoiding early sexual excitement. It is also wrong to allow children to sleep in the same room with their nurses or in the same bed with other children.

The parents have further to look after the health of these organs and summon medical aid in case of any deviation from the normal. A long tight prepuce, eczema of the genitals, pinworms of the rectum, haemorrhoids, fissures of the anus, all lead to rubbing, pressing or handling of the genitals. Medical measures, therefore, must be taken to remove these anomalies.

Every time the boy is bathed the foreskin should be gently retracted and bathed like the rest of the body and replaced in its former position. If difficulty is experienced in retracting or replacing a retracted foreskin, a physician should be called in to circumcise the child. The mother should further give all the attention necessary for cleanliness in little girls. When the children begin to wash themselves, the little girl should be taught to wash her external organs with lukewarm water, just as she does her face, and little

boys should be taught to remove the smegma from the interior of the prepuce.

Overfeeding, effemination, passion for dress and coquetry, all of which make apes out of our children and degrade and abase them to playthings of their vain mothers, must be avoided. We must further eliminate sweets in feeding, irritation through tight clothing, stupid theatrical performances, home parties, children's balls or masquerades.

We must further take care that the bed should not be too soft, the covers too heavy. The child must lie straight in bed, with the hands never under the cover. The child must be taught to rise, urinate and dress as soon as he wakes up. In short, it is the duty of the parents to know that there is no undue irritation of the private organs. When we see that the children have the inclination to stay too long in bed, after awakening, or to remain too long in the toilet, or to be often alone; when we observe suspicious positions of the body, or find the children making certain motions of rubbing, we must be doubly watchful, for these are generally the symptoms of masturbation.

As soon as children are old enough to understand, they should be taught never to handle the sexual organs unnecessarily. They must learn to know that every touching of the genital organs is harmful to the body, just as poking the fingers

into the nose, ear or eyes. Just as the eyes are sensitive and the sight easily damaged, so the organs of sex are sensitive and if not let alone, great harm may result. For that reason they must only be touched with a pair of tongs. But we must not give the children the impression that it is particularly vicious to touch these "shameful" parts; for there is nothing shameful in the human body, and least of all the organs destined to create new life. We should only tell our children that the handling of these organs injures health, mind and character and sense of honor, just as touching the fragile reproductive organs of the flowers will destroy their function.

The child must be told that unnecessary handling of or fingering any part of the body or moving with the legs is a breach of good manners, and is wicked besides; for the human body is a sacred thing, intended for important and noble ends. It must not, therefore, be played or trifled with. The sex organs, in particular, are intrusted with the wonderful power of transmitting life. Hence this power should not be impaired by abusing or injuring the organs in any way.

But while the early watching of the cleanliness of the organs, of the details of diet, of sleeping and dressing and early warning against playing with the sexual organs, or rubbing the same, is very necessary, we must not attribute too much

importance to these parts in particular. We must be careful not to lay more stress on these parts than on any other part. We must abandon the old custom of leaving these parts unnamed, and in this way calling the child's particular attention to them. Carlton recommends that the proper naming of the parts of the pelvic region should be used from the day the child is born.

We must also teach the child not to talk of these parts in public. Not that they are particularly shameful; but we must impress upon him not to talk of them, in the same manner that we teach him not to talk in church.

At this age it is very useful to accustom the child to the sight of the nude in nature and art. In this way the child becomes immune against prurient impressions, in the presence of the nude, later in life. There is no reason why the nude should cause a feeling of shame anyhow, there is no reason why we should not have a feeling of pride instead of shame. To be proud of our body, to consider it sacred, would protect us far more than our present feeling of shame. Through the early accustoming of the child to the nude, in nature and art, the child will learn to reverence the beauty of the body, as the ancient Greeks did. "When one sees a godlike countenance," says Socrates to Phaedrus, "or some bodily form that represents beauty, he reverences it as a god and would sacrifice to it."

Chapter XI.

Second Lesson : Children from Four to Seven Years of Age.

THE feeling of shame begins to develop in the beginning of the fourth year of the child's age. This is about the time when the child's curiosity about the origin of man is awakened. At this time the first positive instruction must be given. Hitherto the lessons were of a negative nature. We tried to prevent unnatural habits which tend to rouse to premature activity functions naturally belonging to adult life. Now we must give a positive lesson to the child.

It has been recommended that the teaching of sex life begin with an explanation of the fertilization of plants, leading up to the reproduction of animal life. But besides the fact that at this age the child could scarcely be expected to understand any lessons in botany, this advice is a concession to the shyness and sex-consciousness of the parents. To the child human birth is as pure as the germination of the flower, and its explanation carries with it no suggestion of shame to his mind.

Hence, when at the birth of a child in the family or the coming of a new baby in a neighbor's household the child approaches his mother with the question, "whence do babies come from?" he should not be put off with false ideas or be met with evasive answers. If the pure-minded child receives such answers he soon realizes that the replies do not meet his queries. After a very short time the child begins to feel that, for some reason, he can not understand, the mystery is not to be solved for him by the members of his family, and he ceases to ask any further questions.

But the sense of mystery unsolved lingers with the child until some companion tells him the truth in anything but a pure way. He now regards his own birth as a direct result of a sinful act. He is given the impression that there is no purity in the propagation of human life, and he thinks he knows now the reason why his parents did not tell him the truth. His confidence in his mother who told him the lie is more or less shaken, and his respect for his parents is no more as it was before.

Hence, when the child asks the very natural question as to where the new baby came from he should not be put off with the remark that the stork brought it, or the doctor did. His questions must be properly and truthfully answered, and his interest in such matters should be encouraged. His curiosity upon the subject, once satisfied, no longer continues.

It goes without saying that enlightenment in sexual matters should not be forced upon the child. We must not thrust upon him what he is not eager himself to know. Instruction should only be given to satisfy the child's curiosity. For that reason it is not necessary to say too much at this early age. There is, for instance, no need for the explanation of the father's part in the process. The child does not seek for details. But there is nothing indecent in the mother telling her child, upon the question whence he himself came from, that he was grown from a seed implanted in her own body.

The mother, therefore, should explain to the child that, as birds come from eggs, and flowers from seeds, so also children come from seeds or eggs called "ova." These ova are so tiny that they can not be seen with the naked eye, and so delicate that the least touch would injure and destroy them. For that reason they can not be laid outside. Hence every child is implanted as a seed or ovum within his own mother, as the egg in the hen or the roe in the fish. There, in a place provided in the body of every woman, and safe from injury, the seed is nourished by the life blood of the mother. When she breathes, the child breathes, too; when the mother eats and drinks, the child gets a part of this food. There the child lies warm and secure, there he grows delicately and tenderly under the heart of his mother. In this way the

seed or ovum develops into a baby, strong enough to breathe the air. By this time the place has become too narrow for the child, and the mother can not carry him any longer. Her body, therefore, opens, and he comes to light. This coming forth of the child from his mother's body into the world, which is called to be born, takes place at the cost of much suffering and pain to the mother. It costs the mother the greatest pain a person can endure in this life. Sometimes she has even to pay with her own life for that of her child.

When the child asks whether he himself had also been in his mother's body, the mother should answer: certainly, my child, I carried you under my heart for nine months and nourished you with my life-blood. By the movements of your tender little body in this narrow place you were known to me before any one saw you. For these long months we lived together, you deeply hidden within me. Hence you are my flesh and my blood, a piece of myself, and for that reason we love each other so much.

There is no question that the child's new conception of his relation to his mother as truly a part of her being can not fail to deepen and strengthen his natural feeling of love and affection toward her who has brought him into the world.

The idea of generation and birth will thus be

associated with the mother's relation to him as the source of life, and the child will enjoy the naive pure joy that he was so intimately connected with his mother, and will have the greatest reverence for the wonder of generation.

After the child has been told his origin he should be admonished not to talk of these intimate subjects with others. Especially should he be warned not to talk to his friends at school about these things, because they are too sacred to be the subject of ordinary gossip. Boys and girls who talk about such things are low and vulgar and not fit to associate with. Besides it is a sign of sordid sentiments to have secret conversations with his comrades. If a boy or a girl should ever ask him whether he knows where babies come from, the answer should be that he knows, but does not want to talk about it. From that moment, the child must be told, he must avoid such a boy's or girl's company. The child must be warned, again and again, not to ask any questions, especially about such things, from others. If he wants to know anything he should come to the parents, who will always be ready and willing to answer every question he wishes to know.

To these warnings against secret conversations with comrades should be added the admonition never to allow anybody, little friends or adults, to touch or play with any part of the child's body. If any attempt is made by anyone, no matter who it

is, a friend, brother, sister or teacher, to do so, the child must be taught to report the fact immediately to his parents. In this way seduction to masturbation, from this source, could be prevented.

Chapter XII.

Lessons for Children Seven to Ten Years of Age.

THE most suitable period for the beginning of the real sex enlightenment is at the age of seven to ten years, according to the mental capacity of the child. At this time parents, who have the necessary culture, or, in most cases, teachers—the child at this period, as a rule, attends school—should give the first lesson in the reproduction of plants.

They should first, in a general way, show the child how the earth keeps the seed warm and moist until the small leaves are strong enough to push themselves toward the light and air, where they breathe, grow, and bloom, and bring forth new seeds.

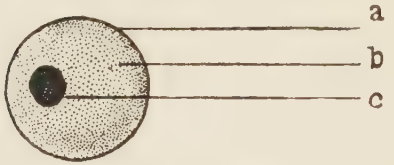
The child should then be told that the basis of all life, vegetable as well as animal, is the cell.

The cell is a minute sac or bubble filled with a certain substance, called protoplasma. The prototype cell consists of a membrane and two constant parts, the cell-body or "cytoplasm," and the kernel or "nucleus."

We will now explain to the child that the cell is the constituent element of all plants and an-

imals. Brain and kidney, liver and muscle, potato and apple, corn and grape, they all consist

CUT 1.



Schema of a cell: a, Cell membrane; b, cell-body or cytoplasm; c, nucleus.

of cells. As the brick building is composed of single bricks, so is every organism composed of single cells. In the course of evolution the elemental cells have been greatly modified and have acquired entirely different characteristics, so that the tissues scarcely resemble each other. Still, all the different tissues are composed of cells.

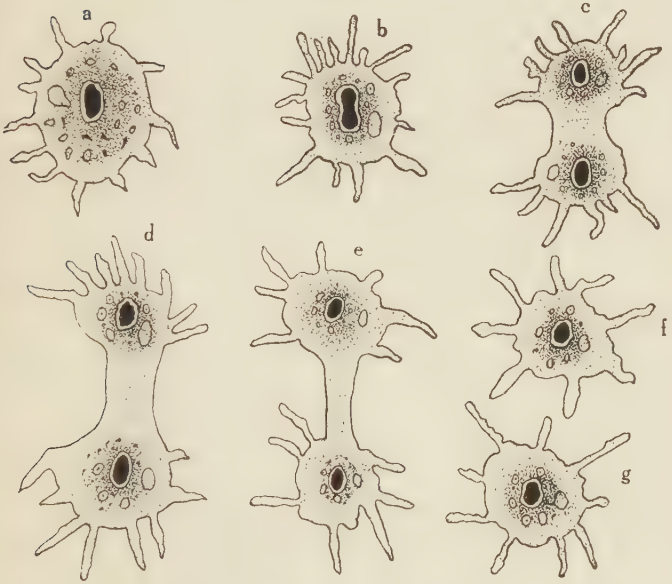
A word is then to be said regarding the general elements of reproduction in living beings. The fact should be brought out that every living being must originate from a pre-existent living being, which is its parent, as the seed in plants and the egg in animals (omne vivum e vivo).

We will explain to our children the wonder of nature as revealed in propagation. The existence of the entire organic world rests upon the propagation of plant and animal. Without propagation there is no life, but eternal torpidity and the sterility of the rock. The latter remains for cen-

turies and millennia unmoved and unchanged, in the same place, and never produces its kind. It is different in the organic world. Here we find a perpetual circle of life. Scarcely is one being born, when it brings forth, out of itself, new life, germs of new beings, which, in their turn, follow the footsteps of their ancestors.

Here is the place to tell our children of the

CUT II.



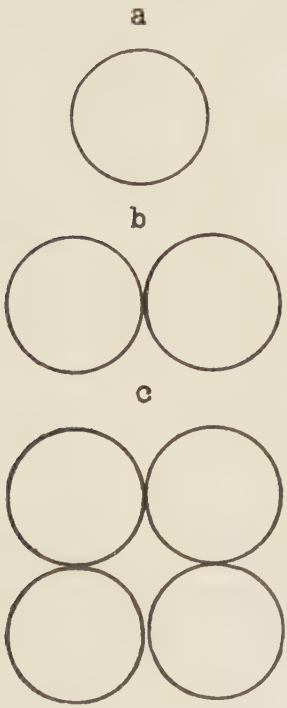
Fissiparous reproduction of the amœba. The single-celled animal "a" is divided after different steps into two animals "f" and "g."

different modes of reproduction. The first mode, the "fissiparous," consists in the division of the entire single-celled animal. (Cut 2.) As soon as the plant, which in this class consists of a single cell, reaches a certain size, it divides itself into two cells or plants, which live a separate life. Fissiparous reproduction is found in Rhizopoda, Infusoria, Anthozoa, Asteridae, Ophiuridae, and sometimes in Medusae. In some of these single-celled beings a certain hermaphrodism was found by Hertwig in one and the same cell. A certain chemical contrast between male and female plasma may be found within the single cell.

The second mode of reproduction is the so-called "gemmiparous," which consists in a multiplication by means of buds. The new cell or bud seldom leaves the mother cell. Hence from the first cell, after the first division, we have two cells, then, by further division, 4, 8, 16, 32, etc. In this way an intricate system of canals is produced, as in sponges and corals. (Cut 3.) Propagation by gemmiparous reproduction is found in the Hydra, Armpolypus and in a great many fungi. In these multiple-celled animals different male and female cells are often found, as in the common polypus in sweet water.

The third mode of reproduction is the sexual generation, i. e., a reproduction by means of the conjugation of two cellular elements, one representing the male, the other the female principle.

CUT III.



Gemmiparous reproduction, as in sponges. Schema.

The reproduction, by means of the conjugation of two cellular elements, is already found in certain single-celled beings, as in "infusoria." But the union of the two cells is, as a rule, only temporary, for the purpose of an exchange of

matter. The united parent cells separate after a mixture or "conjugation" of the mutual protoplasma, and certain changes of the germ-plasma have taken place. Only after going through this process is the germ ripe for division, as in the fissiparous reproduction. This modification of the sex-reproduction is exceptional, and is only found in the lowest forms of organic life. In all the other forms the two parent cells, after their union, form a single cell. In this way the enormous expenditure of force required in unicellular reproduction is lessened. By two cells doing the work of one, the amount of nutritive force required from each is smaller.

The propagation, by conjugation, is the first beginning of sexual reproduction, because, as Haeckel says, it is affected by attraction through the affinity of the different contents of the cells. Such sexual affinity is found already in low plants, as protophytes and algae.

The attraction the different cells have for one another presupposes the presence of a certain sensation in the cells. The sensation which drives the cells to unite is, according to Haeckel, of a chemical nature, like the sense of taste and smell. Pfeifer showed that the flagelliform cells of the ferns are attracted by the evaporation of malic acid, and those of mosses by that of cane-sugar, just as they are attracted by the exhalations of the ova. The reproduction through the conjugation

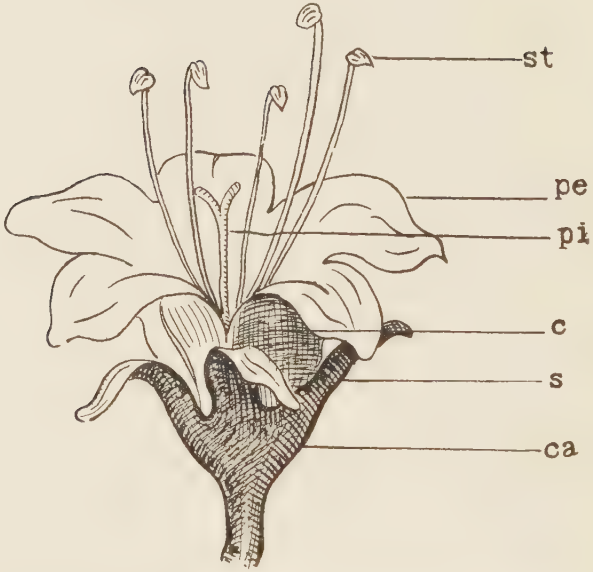
of one cell with another is thus affected by the quasi satisfaction of cell-hunger.

All these explanations may be omitted or given according to the mental maturity of the child. But when it is given, it must be done without timidity, and the children will get accustomed to hear the organs of sex spoken of without taking offense.

We will then begin the study of the fertilization of phanerogamous plants (φανερός = apparent and γάμος = marriage). We will tell the child that the phanerogamous plants are those whose organs of reproduction are apparent or open to the eye; that the flower represents the ensemble of all the organs that serve the reproduction of phanerogamous plants.

The child himself may anaylze the flower when we take him for a walk in the woods or the fields. We will pick up one and the other flower and hand it over to our child for examination. He will find that showy flowers usually consist of four circles or sets of organs, the sepals, the petals, the stamens and the pistils. The sepals, taken together, constitute the calyx; the petals, taken together, constitute the corolla. The members of one of the circles of organs of which the flower is composed may join each other and become adnate. The calyx tube, for instance, may be adnate to the ovary, etc. In this way the great variety of flowers is created.

CUT IV.

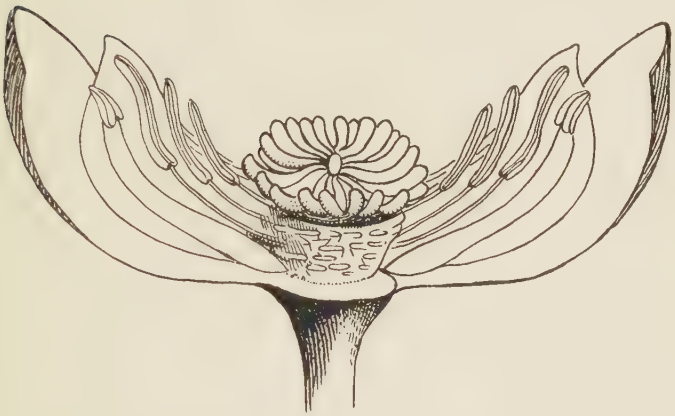


A complete flower: st, stamen; pi, pistil; pe, petal; s, sepal; ca, calyx; c, corolla. After Bergen.

The essential organs of the flower are the stamens and pistils, while the calyx and corolla form the floral envelopes, or the so-called perianth. Flowers which contain the four sets of organs are said to be complete, those which have the essential organs only are called perfect flowers. The stamen represents the male organ, and the pistil the female organ of the flower.

Complete and perfect flowers are hermaphroditic, for the male organ or androcele and the female organ or gynocele are situated in the one and the same flower. The unisexual flowers are those where the stamens and the pistils are produced on separate flowers, as in the willow.

CUT V.



Water lily. Petals and stamens adnate to the ovary. After Bergen.

Stamen and pistil may not only be produced on separate flowers, but the staminate and pistillate flowers themselves may be borne on different plants, as in hickory, hazel or Indian corn. Such plants are called dioecious or of-two-households. When both kind of flowers appear on the same

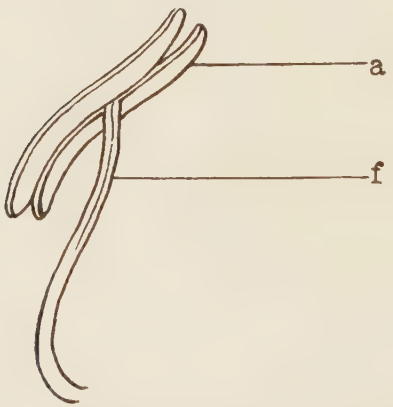
individual, the plant is called monoecious or of-one-household.

Dioecious plants are { early meadow rue, willow, poplar }

Monoecious plants are { birch, hazel. hickory, alder, beech walnut, oak, chestnut }

The stamen, or the male organ of the flower, consists of a hollow portion called the anther, which is borne on a stalk called the filament. In-

CUT VI.



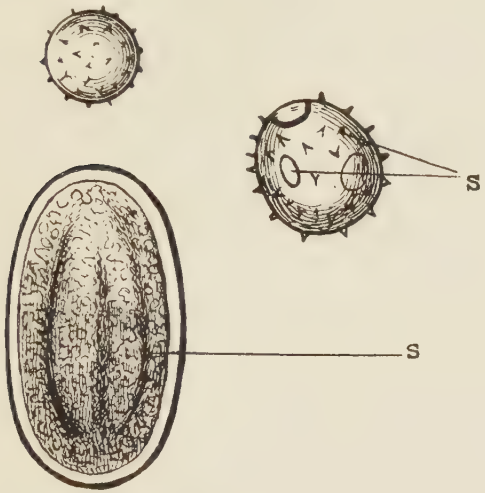
Stamen. a, anther; f, filament. After Bergen.

side of the anther is found a powdery or pasty substance called the pollen.

The shape of the anther and the way in which it

opens depend largely upon the way in which the pollen is to be discharged and how it is carried from flower to flower. As a rule, the anther opens by the cells being split length-wise, or by little holes at the top.

CUT VII.



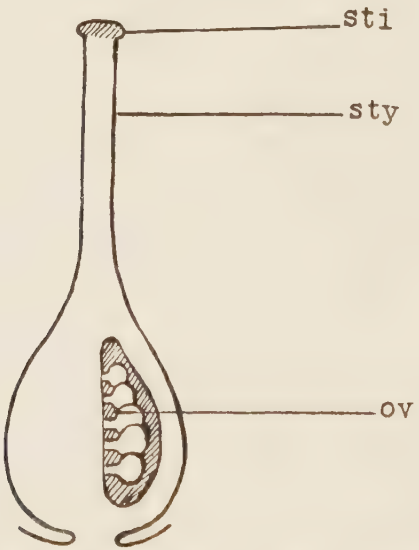
Pollen grains. s, spots where the inner coat bursts. After Bergen.

The pollen in many plants is a fine dry powder, in others it is somewhat sticky or pasty. The forms of the pollen-grains are various. Each pollen-grain consists of a single cell and is covered by a thick outer and a thin inner wall or coat. At the outer coat there are spots at which the

inner coat of the grain is finally to burst through the outer one, pushing its way out in the form of a slender thin-walled tube. The contents of the pollen is a thickish protoplasma, full of little opake particles, and usually containing grains of starch and little drops of oil.

The pistil, or the female organ of the flower, usually consists of a small hollow chamber called the ovary, which contains the ovules, and of a slender portion or stalk, called the style. At the

CUT VIII.



Pistil. sti, stigma; sty, style; ov, ovule. After Bergen.

top of the latter is found a ridge, knob, or point, which is called the stigma.

The stigma consists of cells loosely arranged over the surface. These cells secrete a moist liquid, to which the pollen grains adhere when they come in contact with the stigma. Beneath these superficial cells, running down through the style, there are found long cells, with intermediate spaces, through which the pollen tubes reach the ovary. (Cut 9.)

The ovules are not borne indiscriminately by any part of the lining of the ovary. They grow in a line running along one side of the ovary, as in the pea pod. This ovule-bearing line is called the placenta.

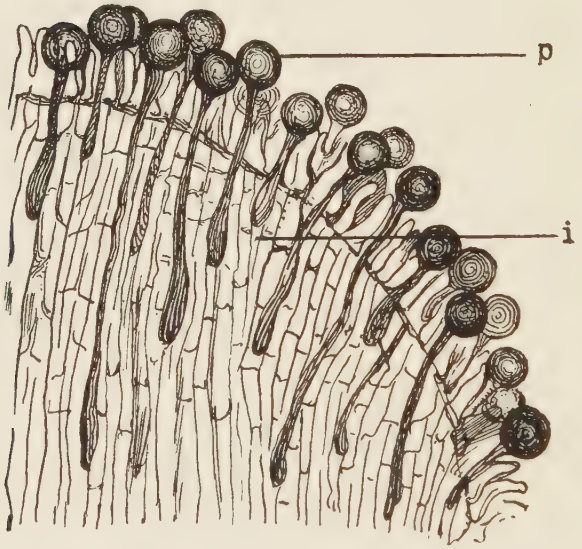
The ovule usually exists as a roundish or egg-shaped mass, with a small opening leading into the apex. This opening leads to a sac inside the ovule, which is filled with a soft protoplasmatic material and cells, and is known as the embryo sac. Minute cells are found at the apex of the ovule from the development of which the embryo is produced.

The microscopical part of the anatomy of the flower is a little too intricate to be grasped by the average child at the early age of seven to ten years. But it suffices that the majority of children will be able, by these lessons, to get a general idea of the structure of the flower.

After the child has become acquainted with the

anatomy of the flower, with the female principle, the pistil, stigma, style, ovary, ovule and placenta,

CUT IX.



Stigma of thorn-apple with pollen. p, pollen forming into a pollen-tube; i, intermediate space. After Bergen.

and the male principle, the stamen, anther and pollen, we may begin to explain to him the fertilization of the plant.

By the fertilization of a plant is understood the union of the pollen with the ovule, or, to be more explicit, the union of the nucleus of a pollen-

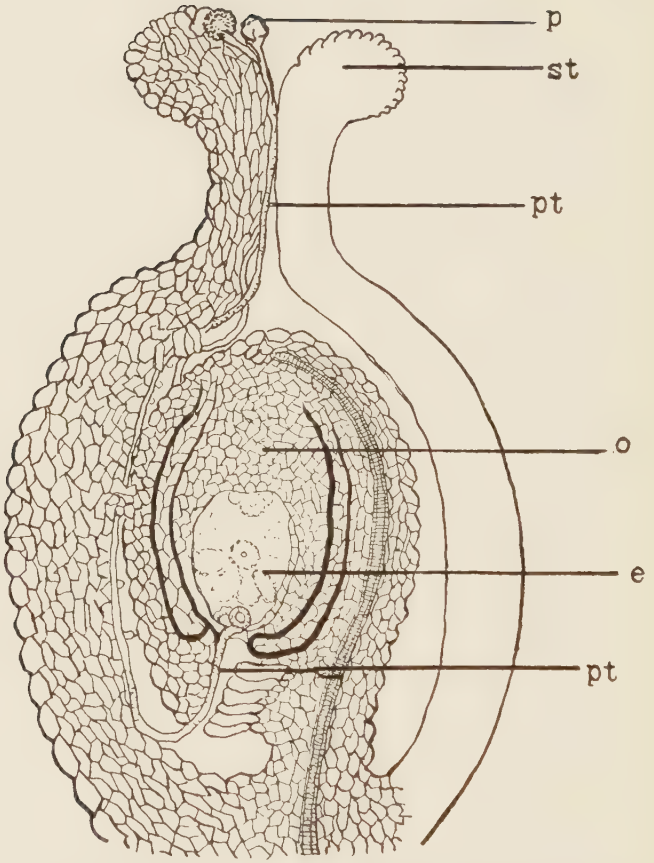
cell with the nucleus of a cell, at the apex of the embryo sac of the ovule. In this way a cell is produced containing material derived from the pollen and from the ovule cell. The necessary feature of the process of fertilization is thus the union of the essential elements of two cells to form a new one from which the future plant is to spring.

As soon as the pollen-grain lodges on the stigma it begins to form into a pollen-tube. (Cut 10.) In more or less time it makes its way through the style into the ovary. It then penetrates the opening at the apex of the ovule, reaches one of the cells and transfers its nucleus into an egg-cell. The latter begins at once to form cell-walls and increases by continued subdivision to the plant-embryo.

Only one pollen-tube is necessary to fertilize each ovule. The reason why plants produce more pollen than ovules—the ratio is from 1 :8 to 1 :1000 —is because so many pollen are lost on their way to the ovules.

The mechanism of the forwarding of the pollen to the ovule varies in different plants. In those plants in which the ovule may be impregnated by the pollen of the same plant, or even of the same flower, fertilization is comparatively simple. But in a great many plants the pollen, in order to accomplish the most successful fertilization, must come from another plant of the same kind and

CUT X.



Fertilization of the ovule. st, stigma; p, pollen; pt, pollen-tube; o, ovary; e, embryo-sac. After Bergen.

not from the individual which bears the ovules to be fertilized. Here nature has devised different ways to carry the pollen from one plant to another.

In the first place, there is the wind which accomplishes this task. The wind-fertilized flowers have dry and powdery pollen, and the pistils are feathery, adapted to catch flying pollen-grains. The flowers are characterized by their inconspicuousness. They are usually greenish, without any odor or nectar.

Another means to forward the pollen, from one plant to another, is by way of insects. Most of the showy, sweet-scented or otherwise conspicuous kinds of flowers are entirely dependent for fertilization on the transference of pollen from one plant to another by insects. The showy colors and odors serve to attract insects to visit them for their nectar. Insects and flowers are interdependent upon one another. For many insects depend mainly upon the nectar and the pollen of flowers for their food. These insects usually visit only one kind of flower during the day and thus carry only one kind of pollen. They go straight from one flower to another and carry a good deal of pollen, entangled in the scales or hairs of their bodies, as the butterflies, moths and most of the bees.

Nearly all attractive flowers, even if they can produce some seeds when self-fertilized, do far

better when fertilized by the pollen from the flower of another plant. Fertilization of corn, common ragweed and pines, for instance, is best accomplished by pollen which are carried from the stamens (tassel) of one plant to the pistils (silk) of another plant.

The means to attract insects are threefold: nectar, odor and color.

The nectar is a sweet liquid which the flower secretes by means of nectar-glands. The latter are usually situated near the base of the flower.

Many plants attract insect visitors by giving up a sweet scent. These are especially the small flowers, like the mignonette or evening primrose.

The color is another means by which the flower attracts insects or birds. The principal color of the flower is most frequently due to showy petals.

Some flowers show on the petals stripes or rows of spots of a color different from the other parts of the petal. These stripes lead toward the nectaries and point out to the insects the way to the nectar. On its way the insect leaves pollen on the stigma and becomes dusted with new pollen to be carried to other flowers.

Different kinds of insects are especially attracted by different colors. Some flowers with very long tubulated corollas depend entirely upon birds to carry their pollen for them.

In complete and perfect flowers, where stamen and pistil are present in the same flower, self-

fertilization would be the rule if there were not certain means for its prevention.

In the first place, the pollen of another plant frequently prevails over that which the flower may shed over its own pistil. When both kinds are placed over the stigma, at the same time, it is the foreign pollen which causes fertilization.

Another means to prevent self-fertilization consists in the stamens and pistils maturing at different times. The insect visitor, on its way to the nectary, brushes against the ripe stamens of a certain flower in its earlier stage. It can not deposit the acquired pollen upon the stigma of the same flower and thus cause fertilization, because the pistil is not yet ripe. But, on flying to a flower in the later stage, when the stigma has ripened and the stamens have shed all their pollen, the insect will lodge the pollen first acquired on the ripe stigma, and in this way produce the desired cross-fertilization.

When the ovule has been fertilized, the ovary begins to grow and enlarge until it is matured. It then forms with any intimately connected parts, the fruit. The calyx becomes also enlarged and pulpy, often constituting the main bulk of the mature fruit, as in apples, pears and many berries. In some flowers, as the daisy, the fruit consists of the ovary and the adherent calyx-tube.

The one-celled pistils of many flowers, as the strawberry, ripen into a little fruit called akene.

Chapter XIII.

Lessons for Children Ten to Thirteen Years of Age.

WHEN the child has become conversant with the propagation of plants and terms like male, female, germ cells, ovum and ovary have been repeatedly pronounced, in his presence, without fear or hesitation, he may, without danger to his modesty, begin his lessons of the sex phenomena in the animal kingdom.

In these lessons we will follow the pedigree of the living beings where the vegetable and animal organisms are not yet clearly distinguishable from one another, as is the case with the great multitude of bacteria.

This class of animals is unicellular. i. e., each animal consists of a single cell and may as well be counted to the vegetable as to the animal kingdom. The identity between the vegetable and animal cells is almost perfect; they are in all essentials composed of the same kind of substance.

The simplest organisms are independently living, single protoplasmic cells. There are thousands of kinds of these single-celled organisms, and according to their habit of general nutrition they are arbitrarily divided into single-celled an-

imals, "Protozoa," and single-celled plants, "Protophyta."

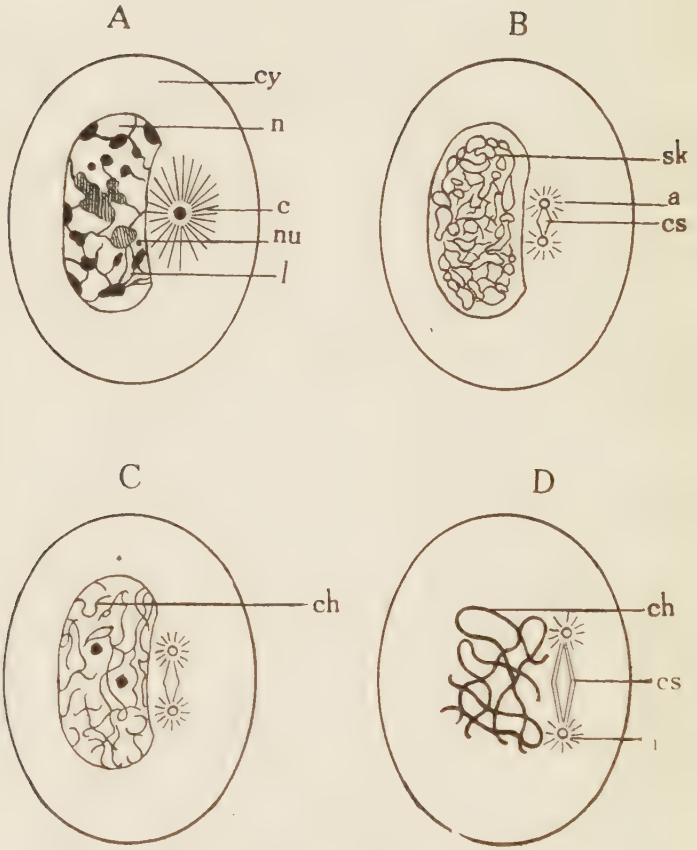
These unicellular organisms show that the cell forms a living unit and that it is of vast importance in the economy of life. It, therefore, deserves a closer study than we have hitherto given it. The cell is a tiny mass of protoplasma with various substances secreted by or held in it. The protoplasm is differentiated into two parts, at least, an inner, denser smaller part, called the nucleus, and an outer surrounding, usually larger portion, called the cytoplasm. In close proximity of the nucleus are often found minute granules, situated either singly or in pairs. These granules are called "centrosomes." (Cut 11 A.)

The nucleus or kernel shows in its interior a linin net and deeply staining granules, which, because of this quality are called chromatin.

One of the foremost qualities of the living cell is its ability to multiply, either by direct division or by the more complicated indirect division called "Mitosis" or "Karyokynesis." In the indirect division the nucleus is divided by a complicated process. Simultaneously the cytoplasm and the entire cell is also divided.

In the typical cell multiplication two parallel series of changes occur nearly simultaneously, one affecting the nucleus, the other the cytoplasm. The chromatin, which is usually, as in Fig. A, in form of scattered granules, arranged along the linin

CUT XI.

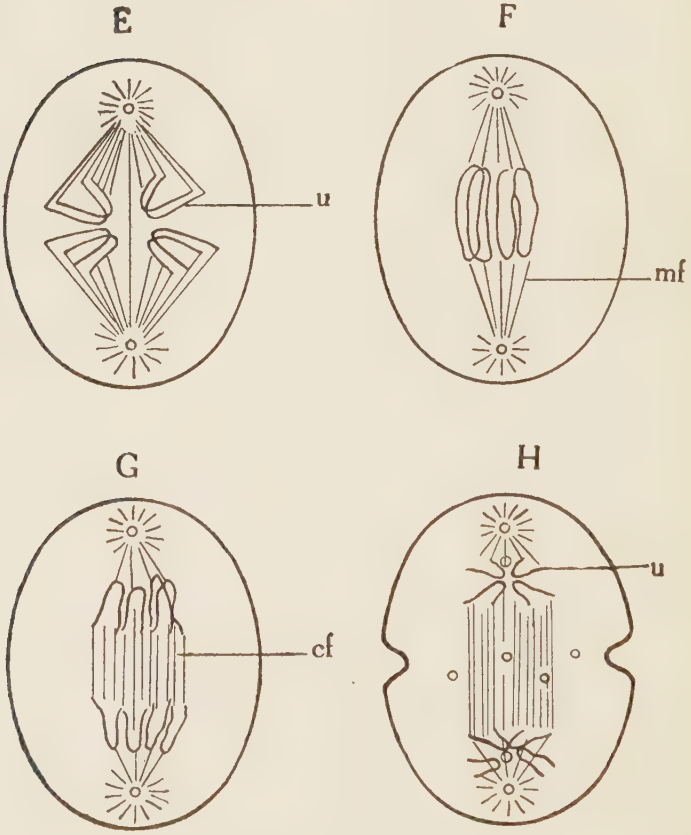


Mitosis or indirect division of a cell. cy, cytoplasm; n, nucleus; c, centrosome; nu, nucleolus; l, linin; sk, skein; a, aster; cs, central spindle; ch, chromosome; u, U-shaped loops; mf, mantle fibers; cf, connecting fibrils.

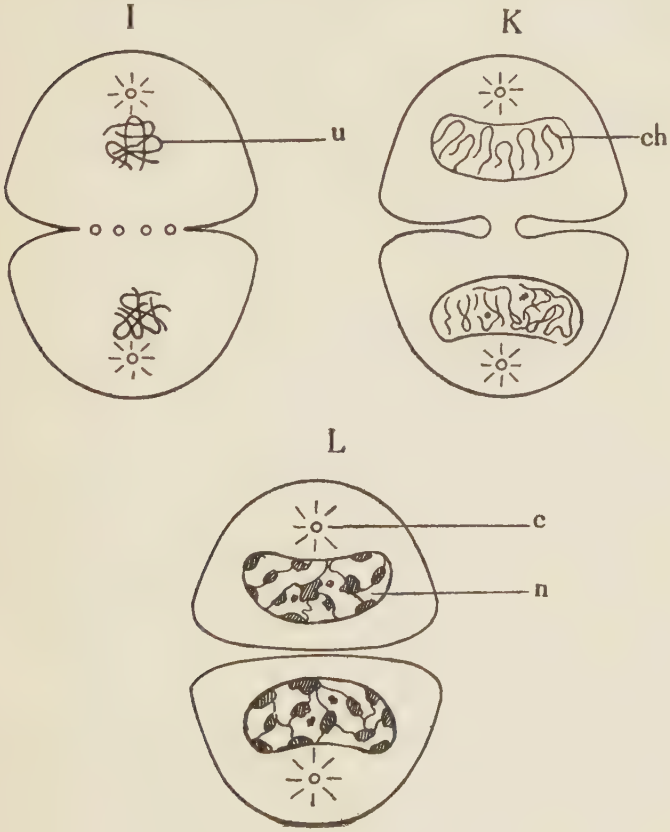
network, becomes aggregated together in certain definite areas, as in Fig. B, forming usually a convoluted thread or skein, which is in form of a long filament or divided up into a series of segments called "chromosomes," as in Fig. C. The number of chromosomes is constant for each species of plant or animal. Thus, in the common mouse these chromosomes are in the number of twenty-four, in the onion, sixteen, in the sea-urchin, eighteen, etc. The number is always an even one. By this time the nuclear membrane has disappeared and the chromosomes appear usually as a collection of bands lying free in the cytoplasm, as in Fig. D.

We now return to the cell-body, where, at the same time, another series of changes has been gone through the centrosome and the cytoplasm. The centrosome assumes an ellipsoid form, constricts transversely into a dumbbell-shaped figure, as in Fig. B, and divides into two daughter centrosomes. Around each of them is gradually developed a stellate figure composed of countless number of delicate fibrils, radiating out in all directions from the centrosome as a centre. This entire constellation is called "aster." The two asters grow in size progressively as the two centrosomes move apart toward the poles of the cell, as in Fig. C. Between the two asters a spindle-shaped system of delicate fibrils is stretching from one aster to the other which is called

"central-spindle" as in Fig. D. The two asters together, with the central spindle, are called "amphiaster."



At this point the centrosomes or the asters and the chromosomes begin to work together. A system of fibrils grows out from each aster which attach themselves to the individual chromosomes.



The latter, now bent into U-shaped loops, arrange themselves in a circle around the centre of the spindle and from the "equatorial plate," as in Fig. E.

The chromosomes are now longitudinally split (Fig. E) and the halves move toward the poles as if drawn by the mantle fibers, Fig. F. The loops are still connected with each other by the connecting fibers as in Figs. G and H.

The new U-shaped loops form now new skeins at each pole as in Fig. I. The chromatin granules now separate along the thread of the linin network, and the new nuclear membranes are formed as in Fig. K.

Simultaneously with the forming of the two daughter nuclei, or even before they were formed, the cytoplasm constricts across the middle of the somewhat elongated cell. The constriction increases until a complete division in the equatorial plane of the spindle has taken place. The result is the formation of two separate daughter cells as in Fig. L.

These complicated phases of the indirect cell-division will be grasped by very few children. Still, the description of the mitosis of the cell will be of some value to the child by impressing upon him the great importance which the creative power of the universe attributes to the correct halving of the nuclear substance of the cell.

After we have learned to know the mode of cell

division we will pass to the study of the reproduction of the lower classes in the animal kingdom.

In the reproduction of unicellular organisms the animal simply divides into two, the division of the nucleus preceding that of the cytoplasm by a more or less karyokynetic method.

The ordinary protozoon does not form a composite structure. It divides and multiplies, but the products of the division go asunder and lead a separate existence; hence there is no real death in these animals. In the metazoa, or many-celled animals, only a few reproductive cells escape, before death, to continue to live in the offspring. But the entire body, or the rest of the cells, dies after a longer or shorter period. The unicellular animals do not possess any other cells. Hence we may rightly speak of the "immortality" of the protozoa.

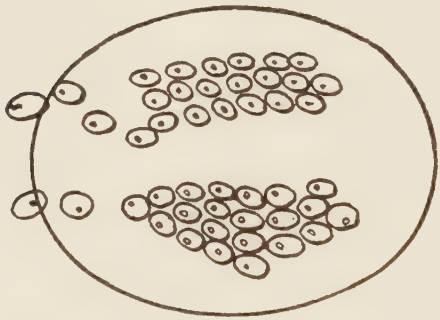
The method of simple binary fission or splitting, by which the body of the parent becomes divided into two equal parts into halves, is the simplest method of multiplication. This method is made use of in the amoebae (see Cut 2). In this kind of reproduction there is no parent nor child, the children, the new amoebae, are simply the parent cut into two.

The next simple generation is by budding, which is the breaking off of a part smaller than a half from a certain individual. The budded off part has the capacity of growing into a new in-

dividual like the parent. This mode of reproduction is found in the hydra.

Another simple mode of generation is that of sporulation. Here the interior of the body of the individual subdivides into more than two parts. Sometimes the parts number many hundreds and are called spores.

CUT XII.



Infusorium reproducing by sporulation.

These three methods are the simplest modes of generation and are exclusively found in unicellular organisms. Another mode of reproduction obtains occasionally even among the simplest of organisms, which demands for its carrying out the mutual action of two distinct individuals by the exchange of nuclear material from one of these individuals to the other. This mode represents the first step in the scale of conjugation. In the

lowest forms of unicellular life, as the schizomycetes (yeast) or bacteria, the necessity for conjugation does not appear to exist. But when we go a step farther, in the class of unicellular protozoa, the simple mode of multiplication continues, in most forms, only for a certain number of generations. Then the necessity for conjugation, i. e., for a temporary or permanent fusion with another individual sets in. If this conjugation be prevented, the animal soon degenerates and dies. Maupas, for instance, has shown that, without conjugation, the members of an isolated family of infusoria eventually cease to feed and divide and pass through the stages of degeneration and senility to extinction.

The simplest terms of conjugation are found in Chilodon, a minute fresh-water infusorium, which multiplies for a considerable period of time by transverse division. After a time, however, the physiological necessity for conjugation ensues. The different animals having placed themselves side by side, in pairs, and partly fused together, the nucleus of each individual divides into two portions, one of which passes from each infusorium into the other to unite with the half of the nucleus remaining stationary. The two animals then separate, each having received a half of the nucleus of the other. Thereupon a period of renewed activity for each sets in, manifested by rapid growth and multiplication by division

until weakening vital activities indicate the periodically recurring necessity for conjugation.

The next step in conjugation is where after their fusion the two unicellular animls do not separate any more. Dallinger and Dysdale describe how fission of the monads is preceded by the absorption of one form by another. One monad is fixed on the sarcode of another, and the substance of the lesser or the lower one passes into the upper one. In about two hours the merest trace of the lower one was left, and in four hours fission and multiplication of the larger one has taken place.

From these two modes of generation it is easily seen that the impelling force leading to conjugation is, as Rolph puts it, simply cell hunger.

After having studied the lower classes of the unicellular protozoa and their mode of generation we may go over to the study of the loose colonies formed by some protozoa, which bridge the gulf between them and the metazoa.

The colonies arise when the individual animals do not leave each other, after their division, to live a separate life but remain together. After the second division there are four animals or members; after the third division eight, then sixteen, thirty-two, etc., until an entire colony has risen. (See Cut 3.)

In the simpler colonial protozoa the cells are

not differentiated, they are all alike, and all the cells or members of the colony take part in reproduction. In the next higher class of colonial protozoa the first differentiation of the cells or members of the colony takes place. One part of the cells is set apart to continue the task of reproduction, while the main body of the colony does not participate any longer in the function of generation. Among the reproductive cells we find two kinds. These two kinds of cells conjugate with each other. The conjugation takes place either between different members of a single colony or between members of different colonies of the same species.

These conjugating individuals are similar in the simpler kinds of colonies. In the higher kinds the conjugating cells are readily seen to be very different from each other. One kind of cells is large, spherical and inactive and is for that reason called egg-cells, while the other kind is small with ovoid head and tapering tail and free swimming, and is hence called the sperm cell. (See Cut 16.)

In all higher classes of animals the differentiation between the reproductive cells, which perform the function of generation, and the cells of the rest of the body is very pronounced.

When the differentiation between the reproductive cells into two kinds, large, inactive, spherical egg-cells and small, active, elongated or tailed

sperm-cells has taken place they are called sex cells.

The sex cells are usually situated in groups, and the groups are called sexual glands. The groups of sperm cells are called testicles, and those of the egg cells are called ovaries.

In the lower classes in the animal kingdom the male and female glands are situated at different parts of the same animal, or near each other. Sometimes the same gland is producing both kinds of cells, male and female. In the hermaphroditic species of round worms, for instance, it is found that, when the reproductive organ is fully formed, it functions first as a testicle. The germ-cells at the anterior end of the ovary begin to divide rapidly and become small spermatozoa which are stored up in a receptacle of the uterus. Later on other cells, also situated at the anterior end of the ovary, begin to grow larger, store up yolk and become large egg-cells. They then enter the uterus and become fertilized by their own spermatozoa. This mode of fertilization is the so-called self-fertilization. It is found in the slightly complex animals, as the tape-worm or the leech, where one and the same individual produces both egg-cells and sperm-cells. In colonial jelly-fishes certain members of the colony produce only sperm-cells, and certain other members produce only egg-cells.

In these hermaphroditic animals the sperm-

cells of the same individual may fertilize its own egg-cells or ova, as in the feat-worm (self-fertilization), while in the earth-worm, although it is also hermaphroditic, cross-fertilization takes place. Two earth-worms mutually fertilize each other, the sperm-cells of one fertilize the ova of the other, and the sperm-cells of the latter fertilize the ova of the former.

When we rise higher in the scale of animal life we find that the egg-cells and the sperm-cells are almost always produced by different individuals. Those which produce egg-cells or ova are called female, and those which produce sperm-cells or spermatozoa are called male animals.

As in plants, so also among almost all the complex animals, the formation of a new being results from the conjugation of two cellular elements. It is necessary that there be conjugation of male and female reproductive cells, in order to produce a new individual. In this way the origin of the organism, or the first single cell from which the new individual develops is composed of parts of two different individuals, and a difference between the offspring and the parents is insured. The intermixing of body-substance from two distinct individuals and the development therefrom of the new individual produce variation. Sexual individuals, therefore, i. e., those forms that reproduce themselves by eggs and sperm-cells, in

contrast to reproduction by division, budding or spores, produce variation.

All animals, which propagate by a fusion of cellular elements of two different individuals, are sex animals. The Chilodons, mentioned above, are, therefore, also sexual individuals, since two individuals unite to exchange parts of their nuclear elements and only after this union are able to continue fission and reproduction.

In all higher animals a single cell is formed by the fusion of two germ cells. The new cell is called a fertilized egg or ovum. Every multicellular organism arises by a process of division from a single fertilized ovum. The descendants of the ovum are divided into two unequal parts. The smaller portion is set aside to serve the propagation of the kind, and the cells are called reproductive cells. The greater part of the descendants are differentiated into various tissues and organs of the body and are called somatic cells.

Weismann believes that in each individual, produced by sexual generation, a portion of germplasm, derived from both parents, is not employed in the construction of the nuclei of the cells and tissues of the soma, or personal structure of the individual, but is set aside, without change, for the formation of the germ-cell of the succeeding generation.

The development of a single cell into a new animal requires a certain amount of food. For

that reason there is found, in the fertilized ovum of most animals, a greater or lesser amount of food matter, food yolk, gathered about the germ cell as seen in the hen's egg.

While the egg-cell, the ovum, in the many-celled animals is laden with a large amount of food yolk and is made up of nucleus and cytoplasm, without any centrosomes, the germ-cell, the spermatozoid, is a minute cell, consisting of nucleus and centrosome with a small amount of cytoplasm, which is modified into an organ of locomotion, the tail. (See Cut 16.)

According to Boveri, the ovum, or the female reproductive cell, has all the organs and qualities necessary for the development of the foetus, except that its centrosome, which starts segmentation, is in a state of inactivity, while the spermatozoon, or the male reproductive cell, possesses the active centrosome, but lacks the protoplasma or the material by means of which this organ could begin its activity.

Before the conjugation of the ovum with the spermatozoon takes place, most ova extrude two polar bodies in the following way. Twice a division of the ovum takes place, each time into two quite unequal parts, the smaller, called polar bodies, remain near the periphery of the egg cell and are extruded later on. This parthogenetic segmentation must be considered as a preparation for fertilization because the two polar bodies are

thrown off before the egg begins its development.

CUT XIII.

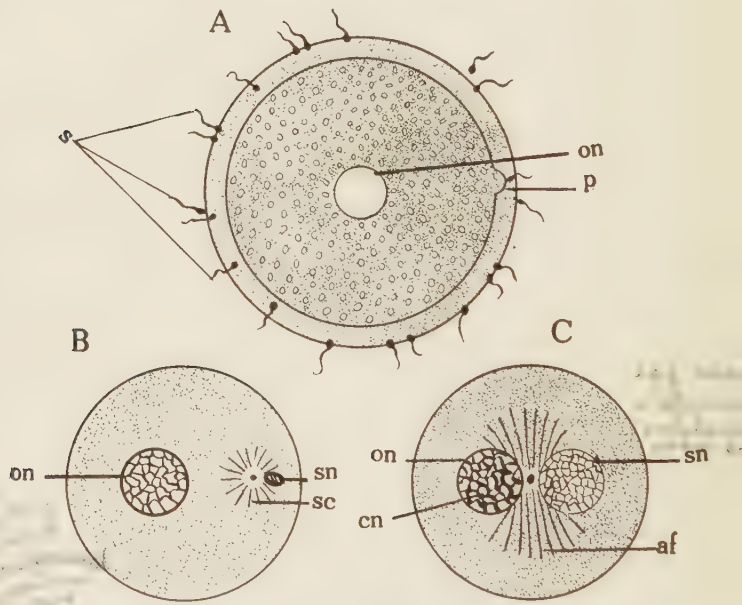
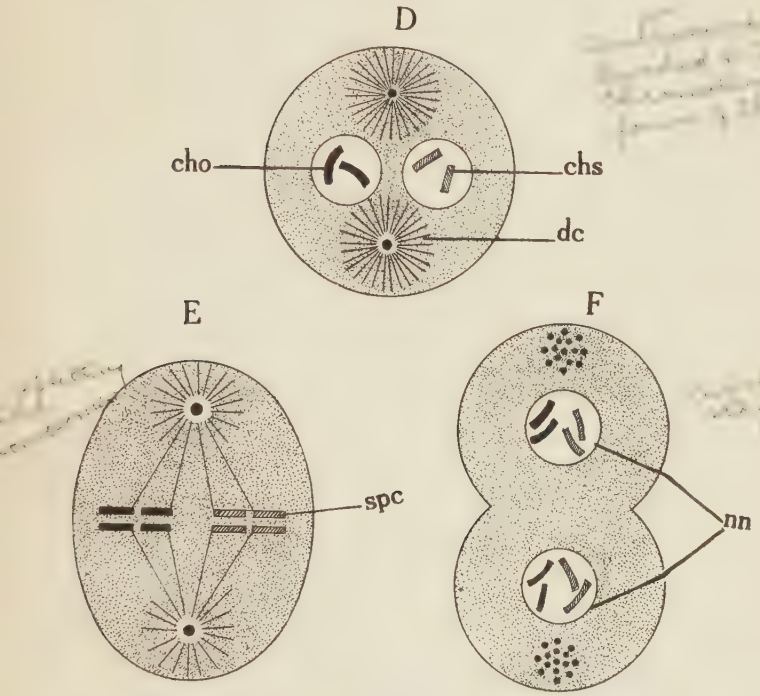


Diagram illustrating the fertilization of the egg after Boveri. A, egg surrounded by spermatazoa, one penetrating the membranes, the cytoplasm sending at "p" a hill-like processus to meet the spermatazoon; B, the tail of the spermatozoon is vanished, the sperm nucleus preceded by its centrosome is moving towards the egg nucleus which shows a chromatin reticulum; C, egg nucleus and sperm nucleus are near each other, between them the aster fibrils; D, the centrosome has divided, the chromatin has taken the form of chromosomes; E, first cleavage of the chromosomes, the splitted chromo-



somes are lying on the equatorial line; F, the cleavage is complete. the two-celled stage; s, spermatazoa; on, nucleus of the ovum; p, hill-like processus; sn, spermatazoon-nucleus; sc, spermatozoon centrosome; cn, chromatin-net; af, aster filbrils; cho, chromosome of the ovum; chs, chromosome of the spermatozoon; dc, divided centrosome; spc, splitted chromosomes, the lighter that of the spermatozoon and the darker those of the ovum; nn, new nuclei, each containing four chromosomes, two from the ovum and two from the spermatozoon.

The process of fertilization is about the same in most many-celled animals. As soon as the head of a single spermatozoon enters the egg-cytoplasm, a new membrane is formed around the egg which effectually prevents the entrance of any other spermatozoa. The head and the middle piece penetrate now into the egg, the tail usually remaining imbedded in the membrane where it soon degenerates.

A few moments after the spermatozoon has entered the egg, a system of radiation appears around the middle piece which develops into an aster, surrounding the centrosome of the sperm. (See B.)

The sperm nucleus now increases in size and its chromatin changes into a reticulate form. Sperm aster and sperm nucleus, the aster preceding, now move toward the egg nucleus. As the nuclei approach each other the sperm nucleus increases still more in size, until it becomes indistinguishable from the egg-nucleus, both being almost of the same size now. (See C.)

The chromatin network of each nucleus now breaks up into a number of chromosomes and the nuclei come into contact and fuse together. The centrosome, together with its aster, now divide into two parts, and the two daughter centrosomes move apart to the opposite poles of the egg, and the typical amphiaster of cell division, as above described, is formed. (See D.)

The nuclear membranes now disappear and the chromosomes are drawn together into the equatorial plate where each splits longitudinally. The halves are drawn by the mantle-fibrils toward the opposite poles where they are transformed into two daughter nuclei. (See E.)

In the meantime the cystoplasm has also divided. The result are two new cells. This process of division is repeated continuously in each of the resulting generations of cells. From the mass of cells thus formed develops the new organism.

The subsequent development after fertilization is divided into three primitive stages.

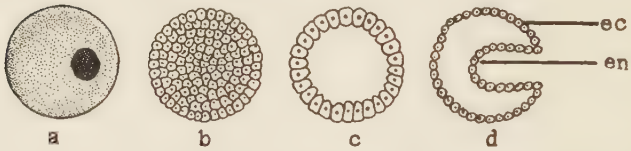
The first stage or phenomenon of development is the simple fission of the egg-cell into halves, first cleavage. (See Cut 3, b.) The two daughter-cells divide so that there are four cells, second cleavage. (See Cut 3, c.) Each of these divides into 8, 16, 32, 64, etc., until by continuous cell-segmentation a mass of cells is created which is called the "Morula" or mulberry. (See Cut 14, b.)

In the second stage the cells arrange themselves so as to form a hollow sphere or ball like a hollow rubber ball called blástoderm or "Blastula."

In the third stage the blastoderm cell layer begins to bend inward, either producing a small depression or a grove. By gradually bending all together half a sphere of two layers, like a collapsed rubber ball, ensues. The sunken-in inner

portion is called "endoblast" or "entoderm," and the outer unmodified portion is called "ectoderm" or "ectoblast." This stage is called the "Gastrula" stage (See Cut 14, d.)

CUT XIV.



a, cell; b, morula; c, blastula; d, gastrula; ec, ectoblast; en, endoblast.

Some many-celled animals issue from the egg while in this stage. In the higher animals development goes on within the egg, or within the body of the mother, until the embryo becomes a complex body, composed of many various tissues and organs. The part of the development, passed within the egg or within the mother's body, is called embryonic life.

The embryonic development is, from the beginning up to a certain point, practically alike in all the many-celled animals. The star-fish, the beetle, the dove, the horse and man are all alike in their beginnings, the body of each is composed of a single cell, and very much alike through several stages.

When the new developed animal issues from an

egg which has been deposited outside the body of the mother it is said to hatch. Some animals do not deposit the fertilized egg-cell outside of the body, but allow the development of the new individual to go on inside the body of the mother for a longer or shorter period. When such an animal issues from the body of the mother it is said to be born.

In some species the animal hatched out from the egg is quite different from the mother, and only after a certain metamorphosis reaches the shape and mode of life of its species. The metamorphosis of insects is familiar to all. From the egg hatches a crawling, worm-like larva, wingless, with strong jaws and other mouth-parts, fitting for biting. After the intervention of the quiescent stage, the pupal or the chrysalid stage, it changes into a winged butterfly, with different eyes, different antennae and different mouth parts.

The same metamorphosis is found among some families of the backboned animals, the vertebrates, as in the toad. The eggs are arranged in long strings or ribbons, wound around the stems of submerged plants near the shores of ponds. From each egg hatches a tiny, wriggling tadpole, swimming easily about, by means of its long tail, and breathing by means of gills. Later on lungs are developed inside the body, the tail is growing shorter, fore and hind legs bud out and the tadpole is changed into a toad.

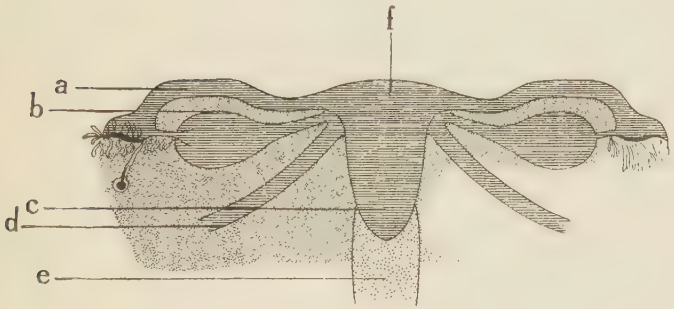
In some animals fertilization takes place outside the body of the mother. The best examples of outside fertilization are the fishes. The female fish contains the roe, which is a mass of small eggs. At the proper time the female lets the roe fall on the ground of rivers or the dark bottom of lakes, etc., at a favorable place called spawning bed, secure against enemies. The male fishes swim over the spawn and pour their semen or milt over it. The two kind of cells attract each other, like iron and magnet, possibly by a kind of erotic chemotropismus. When the milt has reached the spawn, the eggs are fertilized and develop into new fishes.

In the next higher class, in birds, fertilization is internal, but the development is external. There is an ovary, containing a large number of ova or eggs, within the female animal. The male animal possesses an organ that serves for the introduction of the semen into the body of the female. The fertilized egg is laid and develops outside, either by the sunheat or hatched by the mother's warmth.

The last step in generation is reached in the mammals. Here not only fertilization is accomplished, within the body of the female, but also the entire development of the fertilized ovum is carried out in an organ called uterus or womb, situated inside the female body. In this way mammals give birth to living mature young.

For this purpose several organs are found within the female mammal. There are the ovaries, which produce the egg-cells or ova, then the Fallopian tubes, adapted as a pathway for the ovum from the ovary to the uterus. The latter is an organ where the development of the fertilized ovum takes place. The fourth organ is the vagina

CUT XV.



Female genital apparatus, schema. a, Fallopian tube; b, ovary; c, cervix or neck of the womb; d, round ligament; e, vagina; f, uterus.

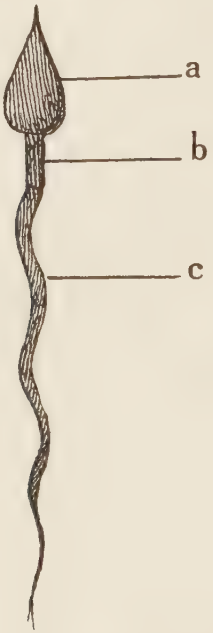
or sheath, which serves as a receptacle for the semen and as a path for the young animal when it leaves the mother's body.

At this place, before we begin to study ovulation in the female animal, we could explain in a few words the physiology of the spermatozoon of the male animal.

The spermatozoon is divided into three parts,

the head which is the modified nucleus of the male reproductive cell, the intermediate segment, which is the cytoplasm of the cell, and the tail.

CUT XVI.

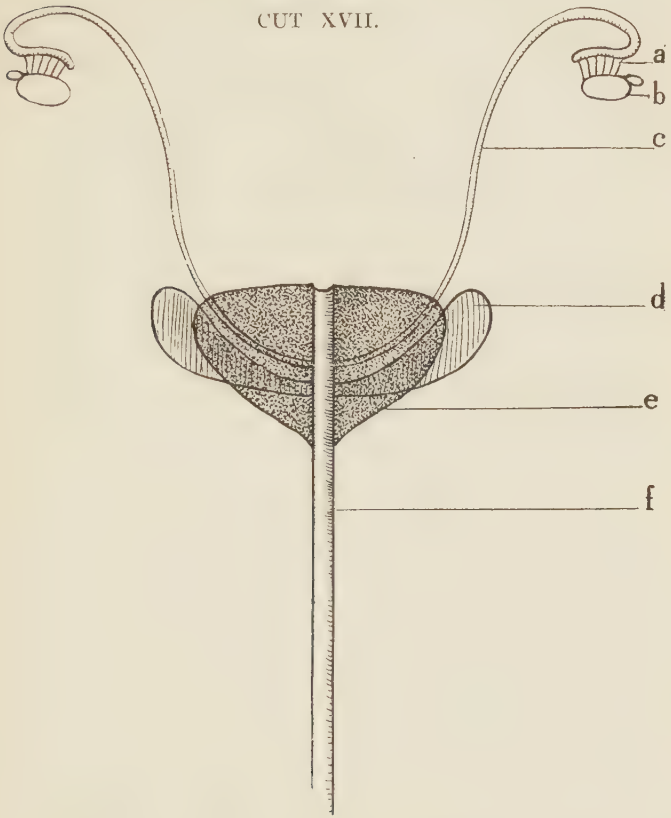


Spermatozoon. a, head; b, intermediate segment; c, tail.

which is a veritable vibrating cilium, as found in all ciliated epithelial cells. This tail is able to advance by its active movements about two to three millimeters in a minute.

The spermatozoa are secreted by the testicles. From these glands they travel through the

CUT XVII.

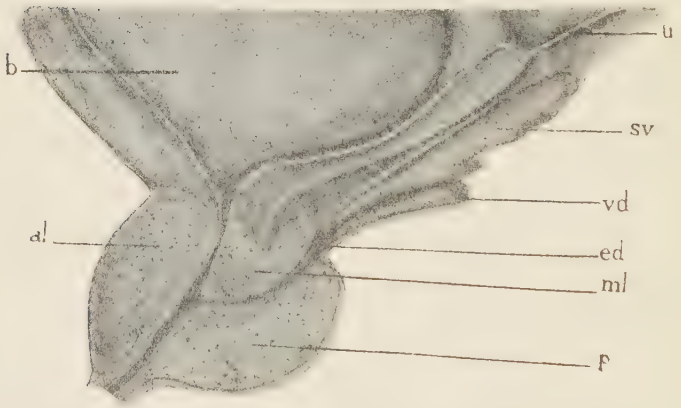


Male genital apparatus. front view Schema. a, afferent canal; b, testicle; c, defferent canal; d, seminal vesicles; e, prostatic gland; f, urethra.

afferent canal, called "Epidydimis," then through the deferent canal to the seminal vesicles, which serve as reservoirs to keep the sperm till the time of ejaculation.

Ejaculation normally takes place within the vagina. As soon as the male organ is introduced into the vagina an abundant glandular secretion of the urethral glands serves to lubricate the wall of the male urethra for the journey of the sperm. Thereupon peristaltic contractions of the seminal vesicles ensue by which the contents of the vesicles are pressed into the prostatic portion of the

CUT XVIII.



Male genital apparatus, side view. b, bladder; p, al, ml, the three lobes of the prostatic gland; u, ureter; sv, seminal vesicle; vd, vas deferens; ed, ejaculatory duct; ml, middle lobe; al, anterior lobe. After Zuckerkandel and Testut.

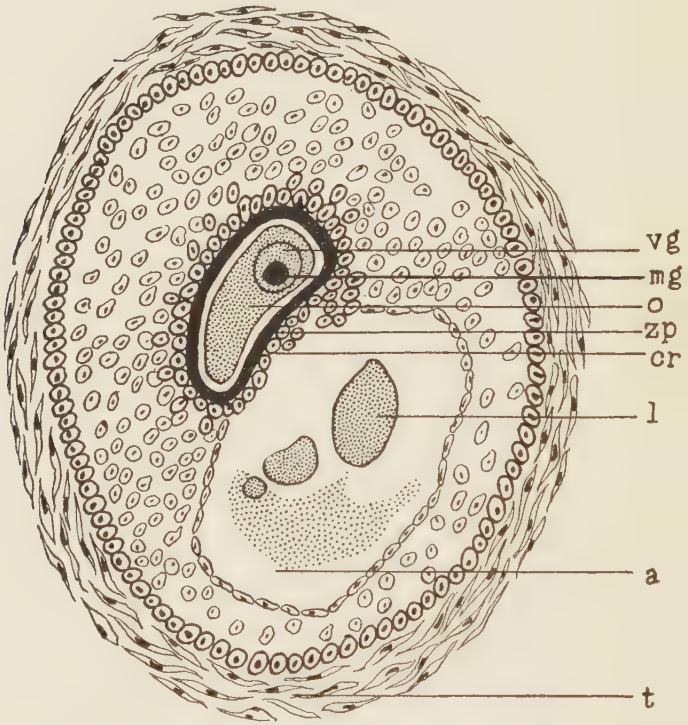
urethra. The latter is firmly closed towards the bladder by the vesical sphincter and towards the urethra, or the front, by the urethral sphincter of the membranous portion. Excited by the presence of the sperm, the prostatic portion of the urethra contracts and presses the sperm in the direction of the urethra, overcoming the weaker urethral sphincter, while the stronger vesical sphincter remains tightly closed. At each contraction a portion of the sperm is thrown outside and deposited at the orifice of the uterus. According to Sutkowsky every ejaculation contains about fifty millions of spermatozoa.

After we have learned the mechanism of ejaculation, we will return to the female ovum and study its physiology. The ovum, surrounded by the follicular epithelium, is called Graafian follicle. The ripe Graafian follicle is usually situated near the periphery of the ovary. The Graafian follicle is bubble-shaped and is surrounded by a fibrous sheath called the "Theca folliculi." The cavity contains a light yellow fluid called "Liquor folliculi." The interior of the cavity is coated with several layers of follicular epithelia called the "Membrana granulosa." The follicular epithelia form at one point a disc of cells called the "Discus oophorus," which includes in its midst the ovum.

About once a month a general congestion of the entire genital system takes place, especially in

the ovary, thus facilitating the ripening of the ovum. This congestion also causes an effusion

CUT XIX.



Graafian follicle; vg, vesicula germinativa; mg, macula germinativa; o, ovum, zp, zona pellucida; cr, corona radiata; l, liquor in a coagulated state; a, antrum folliculi; t, theca folliculi (found by the author in a woman operated for cancer of the uterus).

of serum and blood into the Graafian follicle and the rupture of the same. In this way the ovum is set free and is seized by the fimbriae of the Fallopian tube. The ovum now begins its journey towards the uterus. During its descent, as mentioned above, it extrudes the so-called two polar bodies and becomes ripe for fertilization.

The mechanism of impregnation in mammals is as follows: When the sperm has been deposited in the vagina, near the uterine orifice, the spermatozoa begin to move towards the interior of the uterus. The celerity of their motion is, according to Henle, Kramer, Hensen and Lott, from 1,2 to 3,6 millimeters a minute. Hence they finish their way, from the vagina through the uterus and tubes, within one to two hours.

According to Bischoff and His, the impregnation takes place in the distal end of the tube. After impregnation the ovum continues its wandering, by the current of the ciliated epithelia of the tube, towards the uterus. The ovum needs, according to Hensen, from three to five days, according to Bischoff eight days, to traverse this way in the woman. It could not last any longer, says v. Winckel, because the uterine end of the tube, in the woman, has a diameter of only two to three millimeters, while the diameter of the ovum, in the second week of pregnancy, is 3 to 6 mm.

When the impregnated ovum has reached the

cavity of the uterus it penetrates through the epithelium into the submucous fibrous tissue of the uterus, where it completes its development and then leaves the mother's organism, i. e., it is born.

After the child has been introduced, step by step, into the physiology of propagation of the animal, a hint is enough to apply the same laws to man. In this way the child acquires, in a harmless way, the knowledge of the propagation of the human species, and a more natural conception of his own sexuality.

Chapter XIV.

Lessons for Children Thirteen to Sixteen Years of Age.

§ *a, Menstruation;* § *b, Pollution;* § *c, Masturbation.*

WHEN the child has reached the age of about thirteen years, the first signs of the onset of sexual maturity will soon appear, i. e., nocturnal pollutions in the male and menstruation in the female. If the children are not previously enlightened these occurrences will frighten them and drive them to seek advice from their companions, who very often will initiate the girl into the mysteries of masturbation, and the boy even into those of prostitution. Enlightenment at this period is, therefore, a condition sine qua non. Especially must the girl's attention be called to the phenomenon of menstruation, soon to be set in. The young girl is usually surprised by it as something incomprehensible, and is greatly frightened. She needs special attention, since the sex function tasks physiologically the woman in an extraordinary measure.

We will, therefore, at this period, explain to her the phenomenon of menstruation. As seen above, several changes take place before impregna-

tion can be accomplished. A general congestion of the genital organs is necessary to enable the ovum to leave the Graafian follicle. This general congestion is also the cause of considerable changes in the uterus, especially in its lining, the "endometrium." The result of these changes is the discharge, which is called menstruation.

The mucous membrane, or lining, swells from one to three or six millimeters in thickness and is soft and tumefied. It is injected in spots or uniformly reddened. The openings of the glands are enlarged and a whitish opaque mucus is poured out. The cells of the glands are enlarged, and there is a multiplication of the round cells of the connective tissue stroma. The cells are cloudy and filled with fat granules. This fatty degeneration involves the gland cells, the cells of the interglandular tissue of the blood vessels, which are distended with blood, and the epithelium of the surface. But the degeneration is very superficial. These alterations develop independently of the haemorrhage. The swelling begins a long time before the period and reaches its maximum only at this time.

These changes seem to be made for the purpose of facilitating the grafting of the fertilized egg-cell. A wound has to be set in the lining of the womb for that end. Just as the gardener makes a slit for ingrafting the young shoot, nature accomplishes the ingrafting of the young animal

by the changes preceding menstruation. Menstruation is, what Pflüger calls, the inoculation of nature for the attachment of the fertilized egg to the maternal organism.

Menstruation is, as Goff puts it, a frustrated attempt on the part of nature to reproduce an individual of the species. An ovum is thrown out from the ovary and, through the lashing movements of the cilia of the epithelia of the Fallopian tube, gradually finds its way toward the uterus; and nature prepares for the reception. The blood supply to these parts is increased, the endometrium, which is the soil in which the ovum is to be implanted, becomes turgid, soft and velvety, its epithelial cells swell and multiply, and every preparation is made to nourish the incoming ovum.

If the ovum has become impregnated it is ready to respond to these preparations. If it does not become impregnated it is cast out, and the preparations are also eliminated. The exuberant epithelial cells are exfoliated, the delicate capillaries, already engorged with their vitalizing blood, sweat drops of blood by diapedesis and burst and discharge their contents. The congested and engorged glands secrete and excrete profusely. This mingled mass of epithelial cells, blood and mucus comes away in the form of menstrual blood.

From the sympathetic nerve ganglia in the pelvis and abdomen springs the impulse for the

reproduction of the species, and the uterus is prepared for the task. If the ovum failed to be fertilized, a retrograde metamorphosis ensues. Menstruation, therefore, is a retrograde process in consequence of the failure to conceive.

The menstrual discharge is, therefore, only an evidence of the retrograde physiological process that is going on in the organ within. The flow is, like the shedding of the leaves by a tree, the getting rid of some material whose function has been frustrated and for which the economy has no use any more.

Ovulation and menstruation are thus coincident and stand in the relation to each other as cause and effect. But the preparation of which menstruation is the result is not synchronous with ovulation. The menstrual flow is, as Williams puts it, only the terminal change of the cycle of changes which begins at the cessation of one menstruation, passes through the development phases of the mucous membrane of the womb and ends with the cessation of the flow next following.

In this way there is no period of uterine rest, the organ is ever undergoing those changes which either make it a fit receptacle for the ovum, when impregnated, or which prepare it to carry off the ovum when impregnation has failed.

The phenomenon of menstruation in its broad and general factors, being a direct and logical

sequence of ovulation in which pregnancy has not occurred, it follows that menstruation must occur in all such animals in which the fertilized egg is fully developed to complete maturity within the interior of the mother. This is indeed what happens. All animals with so intimate an attachment of the foetal and maternal organisms that the foetal placenta can not be detached from the mother without a haemorrhage show the phenomenon of menstruation.

Menstruation was formerly regarded as the exclusive prerogative of woman, but we know now that woman shares the privilege with many animals. All warm-blooded animals that stand or walk erect, without exception, menstruate. The appearance of the discharge is due simply to posture. The process is going on in all quadrupeds as the sheep, the cow, the dog, the cat, etc., but on account of the position of the uterus—in quadrupeds the fundus of the womb is situated lower than the neck—the blood is usually retained in that organ, reabsorbed through the lymphatics into the blood and consumed in the vital process or eliminated through excretory glands.

In some animals the discharge consists of mucus. It is only a play of nature, that in one species the congestion of the genitals manifests itself by a sweating of viscous mucus, in the other by a flow of blood.

Even the lower animals shed the same degene-

rated material. They menstruate through the lymphatics.

After the boy and girl have both learned the laws of menstruation in animals, the girl needs a separate lesson, by her mother or teacher, to be enlightened on the mental phenomena, during puberty, in the maturing woman.

At the time of puberty two impulses appear in both sexes, one is the impulse of "detumescence" (from the Latin word "detumescere" to shrink) which is more pronounced in the male. This impulse of detumescence impels the individual to seek a discharge of the physiological congestion and a spasmodic relief from the nervous tension. This impulse is manifested in the desire to relieve the individual of a certain sense of oppression. It is similar to the desire for micturition and defecation when the bladder or rectum are filled respectively.

The second impulse is the impulse of "contractation" (from the Latin word "contractare" to touch) and is more pronounced in the female. This impulse moves one individual to approach the individual of the opposite sex, to touch it and caress it. The impulse also manifests itself in the inclination to converse with, to write to, or to think of the other person, acts which represent a quasi psychic contact.

The impulse of contractation, founded upon Pfeiffer's erotic chemotropismus is found already

in hermaphrodites, as leeches, when two individuals unite for copulation, although each one possesses both male and female sexual glands.

This impulse of contractation together with the impulse of detumescence constitute, according to Moll, the sexual instinct. In animals there is coincidence between the bursting of the Graafian follicle and the appearance of the sexual instinct, both being in relation of cause and effect. In some animals the expulsion of the ova and the detumescence is one and the same thing.

In the human species this is different. Detumescence does not coincide with ovulation. Still, as seen above, enough changes are going on at this catamenial period to make it an interesting study for the scientist. Nature has reserved this catamenial week for the process of ovulation and for the development and perfection of the reproductive system. All the pelvic organs are in a condition of increased nervous irritability and in a natural healthy state of congestion. The breasts also participate in the genital congestion, they become extended and more sensitive.

With the irritability of the genital nerves the entire nervous system becomes impressionate. Especially at puberty, when the first menstruations set in, the nervous susceptibility is increased to the highest degree. The child enters the period of storm and stress. During puberty, says Kiernan, there is normally a struggle between the cerebral

and the reproductive systems which tends to obtrude subconscious states upon consciousness. Quite a few of the young boys and girls harbor in their hearts the so-called "Weltschmerz," which could be defined as the subconscious conviction of the emptiness and worthlessness of existence.

At the time of the onset of the catamenial period headaches are very frequent. There is restlessness, excitability, irritability of temper and a general hysterical condition. The girl is carried away more easily and often cries without cause. The appetite is often diminished and capricious at this period, just the same as is often observed at the beginning of pregnancy. If the girl feels sick and remains in a recumbent position, the blood accumulates in the vagina and coagulates there before it leaves the system. These coagula frighten the young girl.

Hence the functions of menstruation should be very carefully and minutely explained to the girl and the responsibility of the womanly organism impressed upon her mind as soon as the mental symptoms herald the approaching change from child to maidenhood. Indefinable yearnings and moods, wishes and fears assume a certain domination over the growing child. Sweet inexpressible emotions disturb the thoughts and actions of the awakening consciousness. Mysterious sensations and impulses fill the heart of the ripening individual. The bodings of desires and cravings take

possession of the individual's thoughts and fancy. When these symptoms appear it is time for parents and teachers to assist the girl with their advice.

§ *b.*

The boy needs a different lesson at this period. He has to be told that, at the time of maturity, the testicles begin to produce or secrete spermatozoa which fill the seminal vesicles about once or twice a month. Here the sperm is, as a rule, reabsorbed when no external pressure, such as from the filled bladder or rectum, is exerted upon the vesicles. In the daytime the bladder and rectum are regularly emptied, and the pressure from this side is at a minimum.

During the secretion of the spermatozoa the nerve appartus of the genital system is charged with vital energy. When the tension becomes very high, which coincides with the filling of the vesicles with sperma, the nervous tension and the physical pressure are both eager to discharge, respectively to evacuate. When the bladder and rectum are filled during the night their pressure upon the seminal vesicles becomes so great that the latter evacute and thus cause an ejaculation, and a change both in blood and nerve-supply is the result. This relief from the physiological congestion and nervous tension gives a feeling of satisfaction and pleasure. The boy is awakened and is conscious of what has happened.

In the girl a certain kind of nocturnal ejaculation also takes place, manifested by an abundant discharge from the Bartholinian glands and the expulsion of Kristeller's slimy plug from the cervix. These phenomena, during sleep, are usually of a very vague kind in young girls and are seldom impressed upon their consciousness. The real pollution that awakens the sleeper and leaves its traces in the individual's consciousness occurs usually only in boys, and in the female sex only later in life.

Boys, therefore, must be taught that these pollutions, if they happen only once or twice a month, are entirely normal and have absolutely no pathological significance whatsoever. The appearance of nocturnal losses is merely a proof that the boy is approaching manhood. Hence there is no necessity for the boy to resort to prostitution to get rid of the nocturnal pollutions, or the so-called wet dreams, as many a boy has done, sometimes even upon the advice of his parent or medical adviser.

§ *c.*

When the child has passed the period of pubescence it has to be warned aginst the early gratification of the impulse of sex. The child has learned in the previous lessons that the instinct of sex is composed of two different impulses, the impulse of contractation, i. e., the impulse to touch

an individual of the opposite sex, to think of it, to write to it, or to stand in any other communication with it, and the impulse of detumescence, i. e., the impulse to discharge or to cause a relaxation of the nervous tension. The child must now be especially warned against yielding to the latter impulse, especially against abuse in form of masturbation.

There are three periods in the child's life when the danger of masturbation is especially imminent. There is, in the first place, the period of infancy and early age when the child is usually seduced to masturbation either by vicious servants or ignorant mothers, uncleanliness or improper diet. At this time careful watching of servants, cleanliness of the genitals, details of diet, as light suppers, non-spicy food, non-alcoholic beverages, the right way of sleeping, as hard mattresses, the proper dressing, as light trousers, etc., will prevent early self-abuse.

The second dangerous period sets in at the beginning of school life. Self-abuse is widely spread in schools. No institution is free from it. In nearly every school there is at least one lecherous boy who is apt to be peculiarly fascinating to his fellows and who will promulgate the habit. In some schools the evil reaches a wide extension. The tradition of the school and the material of the pupils is of great influence. Particularly dangerous, as hatcheries and divulgers of the evil,

are those institutions in which numerous pupils are present who have passed the normal age by several years. They come, as a rule, from the country to enter the advanced classes.

At this time any moral indignation or long-winded sermons, or, what is still worse, punishment will be of no avail and will have just the opposite effect. Long talks or repeated turnings to the same subject will be of great harm. Here only a deeply implanted disgust of the child against children with nasty habits will prevent the child's seduction by such masturbators. This feeling can not be implanted in a day. One lesson will not accomplish anything. The parent must interpose a remark at every opportune moment during all the years between infancy and school days.

The third period, favorable for acquiring the habit of masturbation, is the time of puberty. When the genital centers are fully developed the individual gets a conscious realization of its sexual power and the psychological reactions of animal passion manifest themselves in the desire to cause a relaxation and a discharge of the nervous tension and the physical genital congestion. Since the opportunity for a natural discharge is connected with great difficulties, especially for the girl, there is danger that the child will resort to masturbation, to be relieved from the nervous tension and the material congestion.

Here a casual warning will not suffice; systematic action is now necessary. In the first place, the causes of the material congestion must be removed as much as possible. These are remaining too long in a sitting position. Long hours of sitting in the school room, for instance, are likely to provoke a certain degree of passive congestion of the genital organs. Then there is the way of sitting which is especially apt to cause congestion, e. g., sitting with crossed legs or riding on chairs, the movements at the sewing machine, climbing with the legs on poles. Other causes of congestion are retention of urine and stool, erotic literature, obscene pictures and vulgar plays.

When the child has already acquired the habit, we will have to be very careful not to leave him any opportunity to exercise the same. The child must never be allowed to remain abed when not asleep. He must never sleep on his back. He should never be allowed to remain any longer than necessary in the toilet or bathroom. Under no circumstances should two children, even of the same sex, be allowed to sleep in the same bed or enter a toilet together. Sometimes the children are exercising the habit in the presence of their elders, and the latter are not able to interpret the suspicious movements. We will, therefore, have to learn to recognize, by his movements, what the child is doing, and interrupt him in his favorite exercise. For instance, when near

the orgasm the movements change their character and rhythm, the eyes become sparkling, the face shows an excited lascivious expression and respiration becomes more rapid.

Teachers especially should be alive to the excessive danger of platonic attachments among their pupils. The sentimental fancy taken by an elder boy to a younger boy in boys' schools, or by an older girl to a younger girl in girls' schools, between whom, in the regular course of the school, there ought to be very little natural companionship, is always suspicious. The teacher or guardian must know that such attachments, which appear so touching and romantic, have a most dangerous resemblance to abnormal passion.

Besides these precautions we will have repeatedly to warn the boy and girl against the dangers of self-abuse. They are now old enough to understand. Although the harmfulness of masturbation has been greatly exaggerated, still it is more injurious than the natural act. In the first place because masturbation is practiced at a time when the natural act is as yet not thought of, and the exercise of the just developed organs of the mere child is highly detrimental to the individual. In the second place the opportunity to masturbation is unlimited and, therefore, the vice is immoderately indulged in. Furthermore, the masturbator uses strong psychical and physical stimu-

lants, and the injury to health is in proportion to the height of excitement.

Especially injurious to the brain is mental masturbation, which consists in the filling of the phantasy with obscene lascivious pictures. The voluptuous day-dreamers, not needing any material manipulations, may masturbate while conversing with their friends, and on the most solemn occasions, as when listening to a sermon, etc. In some patients this habit becomes so rooted that it is impossible for them to free their thoughts from fancies and pictures of lustful circumstances when they are alone.

The sequelae of immoderate masturbation are often quite disastrous. There is, in the first place, general neurasthenia, with all its accompanying symptoms, as photopsias, glistening and dazzling before the eyes, photophobias, dry conjunctivitis, particularly found among masturbating girls and old maids, and functional sexual disturbances, as diurnal pollutions and spermatorrhoea. Other symptoms are indolence, lack of energy, shyness in demeanor, want of self-reliance, disinclenation to study, incapacity for serious work, shortness of memory, absentmindedness, unsteadiness of character, hypochondria and melancholia.

The children become peevish and irritable, they are reserved in conversation, apathetic in manner, hesitating in actions, slovenly in dress and contradictory. Cerebral anemia is of common oc-

currence among those addicted to excess. Vertigo is therefore a common symptom, and fainting spells occur often. Girls especially are liable to be affected by syncope. Perspiration breaks forth on the slightest exertion, and the slightest exercise occasions much shortness of breath. Neuralgia of the testicles, ovaries and the bladder is also frequently caused by excess. The neuralgia of the neck of the bladder is particularly distressing. The patient is frequently seized with a desire to pass water, and the evacuation of the bladder is attended with pain. The frequent calls to urinate occur more often during the day than during the night.

Particular danger of long continued masturbation lies in the development of impotency in men and frigidity in women. Through the frequent application of friction to the parts they become at first hypersensitive and later on hyposensitive and non-responsive to normal excitations. Accustomed to excite the genitals through manual and other, often reinforced, stimulants, the masturbator is later on impotent to reach the normal acme through normal excitations, as they take place partly through the internal organic events in the genitals, partly through the normal external physical stimulants.

Besides the nervous phenomena, there are often found real anatomical alterations. As the habit is more frequently indulged in the prolonged con-

gestion produces a catarrhal process in the urethra, prostate, seminal vesicles and varicocele in the male; and in the female catarrh of the ovaries, tubes, uterus and especially of the endometrium. This condition gives rise to uncomfortable and distressing sensations which demand relief and are gotten rid off only by a continuation of the habit. Thus a vicious circle is continually at work. The results are stricture of the urethra, spermatorrhoea, disturbances of the intestinal tract, as dyspepsia, flatulence and constipation and palpitation of the heart.

The congested genital glands, furthermore, excrete and secrete excessively. In this way the elements of the internal secretion are either in a state of atrophy or otherwise disturbed. The organism, as Gordon puts it, will thus be deprived of these important elements, hence must logically suffer.

Furthermore, every onanist feels that his act degrades his manhood. He seems to know, by intuition, that his practice is injurious to his body and is morally wrong. Still in spite of himself he continues to indulge in his favorite pastime. The will seems to have lost its entire control. He is thus engaged in a conflict between moral conviction and sensual indulgence. Herein lies one of the most harmful effects of masturbation. It is undermining the individual's will-power and destroying his character. Every masturbator re-

solves again and again, after each exercise, to resist henceforth the inclination and to overcome the temptation, each time with the same futile result. A paralyzing sensation arises in him, a feeling of shame and contempt of himself overtakes him because he has again failed to show enough energy, because he has been again too weak to resist the impulse. In the long run these disturbing and paralyzing sensations give rise to the conviction of lacking in will-power and to the feeling of being deficient in everything else in life.

Chapter XV.

Lessons for Children Sixteen to Eighteen Years of Age—Gonorrhoea, Syphilis, Continence.

THE last lesson in sex matters ought to be given to boys and girls after they have reached the age of puberty, about sixteen to eighteen years of age. At this time the boy, and to a certain extent in our modern industrial world also the girl, leaves the family to go out into the world to commence the struggle for existence. There, in the office or in the factory, the boy and the girl will be surrounded by many temptations. Innumerable chances will be offered to them to surrender their chastity, and it must be impressed upon them, how necessary and important it is for them to be careful and not to allow the hot temper of youth for a woman, respectively for a man, to get the better of their prudence.

We will, in the first place, warn them of the dangers of venereal diseases and show them the fearful results of promiscuous intercourse. The diseases of society just as those of the body, says Stuart Mill, can not be prevented without speaking openly about them. The social diseases must be spoken of in the open and not with bated

breath, and it must be spoken to the woman no less than to the man. For it is not conceivable that, with the proper knowledge, any woman, with a fair amount of judgment, would permit the approach of a possibly tainted man. Le Pileur says: Such lessons to young girls, showing them the dangers to which they expose themselves, can only have a favorable influence. Perhaps the physicians of Saint-Lazare will then hear no more, from at least the fourth part of all these unfortunate girls in this institution, that they have given themselves to some stranger. We will not hear twenty per cent. of them answer that they have allowed themselves to be deflored out of curiosity, to know what it is, to be as smart as the friends. The subject of venereal diseases is altogether too largely taboo among us, and for that reason they continue to rot the core of society, leaving blindness, deformity, invalidism and death in their train disseminate.

The social diseases have been declared shameful and no one is allowed to know or to mention them. Many excellent people look upon venereal diseases as a merited punishment, for the sin of immorality. In the popular conception, venereal diseases are diseases of debauchery only. There is, says Morrow, on the part of the public, an indifference, even an active opposition, to this enlightenment, due partly to the erroneous idea that these diseases are the exclusive appanage of vice, but

chiefly to the traditional shameful character with which they have been invested by popular prejudice. The people are ignorant of the fact that millions of guiltless persons acquire these diseases through common utensils and in marriage. The people are unaware of the fact that these dreadful diseases embrace among their victims a vast number of innocent children and virtuous wives. There is more venereal infection, says Morrow, among virtuous wives than among prostitutes. The wife and unborn child are surely innocent in every sense of the word. They are incapable of foreseeing and powerless to prevent this injury.

Syphilis, especially, is not purely a sexual disease. It is often acquired in the most innocent manner. An almost imperceptible lesion in the mouth or throat of the syphilitic exudes a virus which may be conveyed to another, innocent person, by a pen, a pencil, a drinking glass, by surgical and dental instruments and by kissing. Such innocent people do not deserve punishment and ought to be protected. The only practical protection is the removal of the mist of ignorance. Ignorance of the results of venereal diseases is often ruinous.

Especially is ignorance, prevailing about gonorrhoea, often very disastrous. Gonorrhoea is commonly considered a benign local disease. Young men think it a joke to have gonorrhoeal infection several times in their lives. They have

imbibed false views in regard to the trivial character of this venereal infection. They think gonorrhoea is not more serious than a bad cold. The young man who happens to have escaped a gonorrhoeal infection is the target of his friends' jests. Such lucky ones are, however, very scarce. Neisser, the discoverer of the gonococcus, claims that of the adult male population inhabiting large towns only an insignificant proportion escapes gonorrhoeal infection. Noeggerat claims that, in New York, of 1,000 married men 800 have had gonorrhoea, 90 per cent. of all these have not been healed and can infect their wives, and, as a result, at least, three out of every five married women in New York have gonorrhoea.

These statistics may be somewhat exaggerated, still the percentage of diseased young men is appalling. At least 50 per cent. of young men approaching the age of maturity become infected with venereal diseases in a single year. Kirchner, of the Prussian ministerium of cultus, claims that about 100,000 men suffer daily of a venereal disease within the Prussian monarchy. The result is a loss of daily income of at least 250,000 marks, or a loss of 90,000,000 marks a year.

Rogers claims that over 90 per cent. of our young men stray from the paths of virtue before marriage; 60 per cent. contract venereal diseases which are difficult to cure. More wives than prostitutes have venereal diseases, innocently con-

tracted from husbands. Thousands of unborn babes are annually killed by parental infection. Sixty per cent. of the blindness in this country is due to venereal diseases. One-eighth of all cases in New York hospitals are venereal. Two hundred thousand infected persons walk the streets of New York daily.

The reason of the spread of the diseases of this kind, especially the reason of the spread of gonorrhoea, is the mistaken idea that gonorrhoea is a local trouble. Even among the educated people who have had the best opportunities of education and refinement, there are very few who know that of the triad of venereal infections, chancroid (which may produce extensive ulcerative processes and mutilate the organs), syphilis and gonorrhoea, the latter once acquired may remain latent for years and still be the means of infecting an innocent wife and of destroying the eyesight of her child. The so-called cure of gonorrhoea is often merely the establishment of toleration of the presence of the gonococcus on the part of the individual's urethra. But the imperceptible discharge still remains virulently contagious to the healthy virginal genito-urinary passages of the young wife and to the delicate tender conjunctiva of the new born baby.

Besides this danger of infecting the innocent mother and child, gonorrhoea is not such an innocent disease even for the man himself. It is

not a local disease, it is a general infection, and its manifestations may be as grave to the individual, and perhaps even graver, than syphilis. The complications of this disease may be disastrous. The infection may ascend to the urinary passages and cause a catarrh of the bladder and infection of the ureters and kidneys. It may affect the genital organs, as the testicles and prostate in men, and uterus and tubes and ovaries, and even cause peritonitis, in women. The germs of gonorrhoea may enter the blood and attack the joints (Osler says: in many respects gonorrhoeal arthritis is the most damaging, disabling and serious of all the complications of gonorrhoea), they may enter the heart (gonorrhoeal endocarditis may develop subsequent to the primary lesion), and they may invade the brain, causing meningitis and myelitis. Gonorrhoea often becomes chronic or latent. The individual considers himself cured, while in fact the gonorhoea remains contagious for many years. This ignorance of the prolonged infectious character of gonorrhoea has ruined many and many a young wife. The non-multiplying gonococci, which have apparently been deprived of their power to cause suppuration at the point of the first infection, may possess full virulence and also a capacity of producing suppuration if transferred to some other mucous membrane, especially in the virginal vulva and urethra, Bartholinian glands and cervix, tubes, ovaries and peri-

toneum of the newly married wife. When a newly married woman experiences a leucorrhoea with burning pain on urinating, it is ninety-nine cases out of a hundred caused by the gonococcus. If two weeks after she was married she feels pain in the lower abdomen, the case is suspicious of gonorrhoeal salpingitis, for the gonorrhoeal infection reaches, as a rule, the tubes ten to fourteen days after the initial infection of the cervix. The vagina may not be affected at all, for gonorrhoeal vaginitis is exceedingly rare, because the pavement epithelium covering the vaginal surface seems to afford protection. Gonorrhoeal endometritis is also rare. Gonorrhoea seems to infect the female genital tract by jumps. From the urethra and vulva the infection jumps to the cervix and from there to the tubes and ovaries.

Even if the non-multiplying gonococci should remain inactive in the female genital tract in the beginning they may do a great deal of damage later on. Gonorrhoea may exist in the genital tract during the period of pregnancy without clinical manifestations and become active during the puerperium, which explains many obscure cases of puerperal infection. In the passage of the child through the maternal parts the conjunctiva may become infected, and the danger of blindness is imminent. According to Neisser there are now in Germany thirty thousand blind persons whose loss of sight may be thus accounted

for. Thus the disease is markedly accentuated in virulence and danger in the innocent wife and mother in fulfilling her function, and the results of the disease are appalling. Eighty per cent. of the deaths from inflammatory diseases peculiar to women, 75 per cent. of all special surgical operations performed on women, many of them serious desexing operations, and 60 per cent. of all the work done by specialists in diseases of women are the result of gonorrhoea. Besides the fatal operations in the wake of gonorrhoea in a large number of cases of primary gonorrhoeal infection of the urogenital tract, a progressive septicaemia or pyaemia develops, leading, as a rule, to certain death.

Gonorrhoeal infection may make a tragedy of marriage by destroying the woman's conceptional capacity and rendering her irrevocably sterile, in this way producing childlessness, and by sending thousands of women to the operating table to be condemned to the mutilation of their generative organs to save their lives.

The so-called one-child sterility is accounted for in a large measure by the extension of a pre-existing gonorrhoeal infection during the puerperium. In this way 50 per cent. or more of all the infected women are rendered absolutely and irremedially sterile, in addition many are condemned to a life-long invalidism. The aspirations

centered in motherhood and children are thus swept away.

Besides mutilating the innocent women, gonorrhoea destroys the eyesight of innocent babies. From 70-80 per cent. of the ophthalmia which blots out the eyes of babies, and 15-25 per cent. of all blindness is caused by gonococcus infection.

To give this loathsome disease to his wife would, therefore, be a moral crime, if the men who carry gonorrhoea into their families knew the consequences. But, as a rule, the misfortune comes upon the family quite unaware. Not only the woman acquires a gonorrhoeal infection without her knowledge and in absence of all local or general symptoms, but even the man may not know that he is still harboring infectious material in his genital tract. Prof. Bum has found gonococci in the urine and in the urethral secretions five and ten years after the onset of the infection, which is certainly a time when no man ever thinks of still being infectious. In this way the great majority of infections in the female is conveyed from chronic gonorrhoea in the male, and the man not infrequently becomes unaware the murderer of his mate.

§ *b.*

The other most appalling venereal disease is syphilis. It may become the cause of all maladies humanity is afflicted with. In gonorrhoeal infec-

tion the individual risks the wife has to incur, are much more serious than those following syphilis. But the constitutional disturbances caused by syphilis and the risks to the offspring make this disease one of the most dreaded affections known to medical science. Even the primary infection may become disastrous to the man and the woman.

The prevalence of syphilis is, according to Morrow, estimated at 18 per cent. of the adult population. Ruggles found, in New York city in the better class of families, one-third of the sons of adult age infected with syphilis. Syphilis causes about 40 per cent. of all miscarriages, and the mortality of syphilitic children is about 60 per cent. Syphilis is the only disease transmitted to the offspring in full virulence. Sixty to eighty per cent. of all infected children die before being born, or come into the world with the mark of death upon them. The mortality of the children who have inherited syphilis from their father is about 28 per cent., of those who have inherited it from their mother over 60 per cent.

Syphilis is essentially a chronic disease, although it has an acute stage. The duration of the disease is unlimited. It may remain latent for several years and then break out, either in form of chronic inflammations or in form of syphilitic tumors, called gummata. These inflammations may become again infectious. Fournier says, even in the tertiary period of syphilis, e. g., in the

tenth year after the primary infection, mucous papules may rise in the mouth or in the vagina and thus be infectious.

Syphilis plays an important rôle in the etiology of almost every known disease. Syphilis spares no tissue or structure; it affects every organ of the body.

In the alimentary canal and its accessory glands, syphilis may cause cicatricial obstructions of the œsophagus, affections of the stomach and intestines and gummatous productions of the rectum. The liver, and sometimes the pancreas, are affected with syphilis, either in form of chronic inflammations or in form of gummatous nodules.

In the respiratory tract we find, in the first place, the affections of the nose. The septum of the nose is often destroyed, and the nose sinks in in the form of a triangle. The palate is often destroyed already in the secondary stage, and the patient's speech is greatly impaired. The syphilitic affections of the larynx cause extensive destructions of the organ and a permanent impairment of the phonation. Deformities of the trachea are often also the consequence of syphilis. Pneumonia may also be caused by syphilis. Infiltrations of the lungs are not such a rare occurrence. Gummata of the lungs may undergo the destructive process, and cavities are formed which are not infrequently mistaken for tuberculosis.

Syphilis often affects the circulatory system. Syphilitic gummata are frequently found in all the muscular parts of the heart. Syphilitic myocarditis and sclerotic endocarditis are not rare. The syphilitic affection of the ganglia and the nerves of the heart are the cause of different forms of angina pectoris. Syphilis is often the cause of arteriosclerosis, and the syphilitic affections of the smaller blood vessels produce manifestations in every tissue. The different aneurisms are also mostly caused by syphilis of the arteries. The spleen and the other blood-producing organ, the bone-marrow, are frequently the seat of syphilitic manifestations. Pseudoleukaemia is often caused by syphilis.

The genito-urinary system is especially affected by syphilis. Apart from the initial affection, which is usually found at the genitals, tertiary syphilis of the genital organs is not rare. Syphilitic orchitis is often observed, and gummata of the penis and testicles are not a rarity. Gummata are also frequently found on the external genitals of the woman. Gummata are not rarely observed at every internal genital organ. The ovaries are often affected in form of diffuse or gummatous oophoritis. Syphilis is often the etiological factor of Bright's disease.

The skeleton is also often affected by syphilis. Besides the bone-marrow, the bones themselves are especially subject to syphilitic lesions. No

joint escapes the attacks of syphilis, the most frequently affected are the knees and the elbows.

The muscles are affected by syphilis in form of an irritative myositis and of chronic interstitial inflammation. Gummatous infiltrations also affect the muscles. The tendons are affected in form of an acute irritative tendo-synovitis. Swelling of the bursae is quite frequently found in syphilitic patients.

Syphilis of the nervous system is especially disastrous for the patient. Syphilis not rarely causes cerebral and spinal meningitis. Most of the tumors found in the brain are of syphilitic origin and cause headaches, insomnia, flashing of light before the eyes, vertigo, epileptic convulsions, a retarded pulse, polyuria and polydipsia, and greatly affect the eye-sight. Gummata of the brain also cause aphasia, hemiplegia and paralysis. Syphilis of the spinal cord causes heavy weight of the extremities, neuralgia, paralysis of the muscles and paresis of the bladder and rectum. The insanity caused by syphilis may mimic every known form of mental derangement, such as mania, melancholia, paretic dementia, paresis, locomotor ataxia and general paresis.

Syphilis is thus a scourge, disastrous not only to the infected individual, but to his family and causing degeneration of the race. Still there are strong reasons for the belief of many men, foremost in the medical profession, that gonorrhoea

is more dangerous than syphilis. Among women, gonorrhoea causes certainly more innocent suffering than any other disease. But no matter which of the two is more disastrous, there is no greater scourge devastating every nation to-day than venereal diseases. No other disease has such a murderous influence upon the offspring as syphilis, and no other disease has such a destructive influence upon the health and reproductive function of woman as gonorrhoea.

Thus the dangers of venereal diseases beset not only the individual but through the individual the whole race. Both venereal diseases, as Morrow says, respect no social position and recoil before no virtue. They ramify through every class and rank of society. Like "pallida mors" they approach with equal step the habitations of the poor and the palaces of the rich.

With these dangers staring at him it is to be marveled how any young man could even think of exposing himself, his future wife and offspring to all these dangers for the mere pittance of a short momentary enjoyment in the company of pestiferous individuals. But for the dearth of wholesome information no young man would ever seek the society of these so-called fallen angels whom the Bible describes as the "strange woman which flattereth with her words, her feet go down to death, her steps take hold on hell, going down to the chambers of death." The meretri-

cious women are constantly seeking those whom they may devour and are laughing at the wholesale ruin they wrought. These unscrupulous courtesans are individuals without industry, prefering indolent lives with a show of finery and a brief period of at least questionable gratification. They indulge their selfish lust ad libitum, with no thought whatsoever as to what the result may be. Most of the devotees of meretricious venery spend their brief lives trying to lead boys and young men into wickedness and mischief. As a rule, they are all unclean and diseased and rejoice to return to their partners, the so-called "prostituants," the infection they received from other "prostituants." The young man, therefore, will in a majority of cases surely carry away some foul disease from these women.

Swayed by their animal passion, young men resort to these unfortunate women not only of their own accord but even by the advice of their parents. It is a daily occurrence for a father to advise and to hand over some money to his young son of 18-20 years of age to go to these loose impure women, because, in his ignorance, he thinks that it can not be helped. Such actions of mature men are scarcely comprehensible. We can understand the action of the youth. The majority of young men go into illicit sensual life knowing little of its dangers and pitfalls, they often drift into such a life by insensible gradations. They become

not seldom contributors to the resources of meretricious venery, because they labor under the impression that to be such is manly. But how parents could actively help their young son to jeopardize his own health and the life of his future family, can only be explained by their almost criminal ignorance in these matters. When we consider how difficult and rare a thing it is to thoroughly cure a woman of gonorrhoea, we will understand how dangerous it is for the youth to trust himself at any time in her subsequent life within her infected presence.

Even those whom some ray of light about the imminent dangers has reached have only hazy ideas of the danger of infection. Ruggles says that he knew widows, and the author also knew a few, who procured mistresses for their own sons in order to save them from the danger of venereal diseases, as though there could be any safety in the company of any kind of loose and impure women. If these careful and loving mothers were better instructed they would have known that clandestine vice is, as a rule, more dangerous in regard to contracting venereal diseases than the immorality of the street.

The ignorance prevailing about the dangers of venereal diseases is also responsible for the levity with which marriages with profligates are contracted. By a strange irony of fate, says Morrow, the diseases of vice, transplanted to the bed of

virtue, often become intensified in virulence and danger. Still with many girls the young man who has most promiscuously and profusely scattered his "wild oats" has been looked upon as the most favored one among possible husbands. How there can be anything alluring to marry a man with a past when there is the great peril that the young bride may get up on the morning after the wedding day an invalid for life, can only be explained by the lack of knowledge of the gravity of venereal diseases. If the mother knew that a man who has led an unclean life is not a safe husband for her daughter, if she were aware of the fact that dissipated men do not make desirable husbands, she would look more for virtue than money in her future son-in-law. If the girl knew the host of definite and indeterminable lesions which may follow in the wake of the various venereal diseases, if she knew all the dangers lurking for her and her offspring, she would never condone moral depravity in her husband and the father of her children. Her whole nature would revolt against the wedlock with a man whose body is a sink of corruption. For it will be she who will have to suffer most. It is upon the woman that the burden of shame and suffering, of disease and death is chiefly laid.

Besides the girl contemplating marriage, every girl, who knew all the dangers of contracting a disease, would be more capable of understanding

the seriousness of her taking a false step herself and guard herself against it. If the girl knew of the prevalence of venereal diseases among men, and her great danger from this source, she would not so easily debase herself and sully her vestal purity. The girl ought to know that the sexual instinct is imperious in its demands, and that the man is usually the aggressor. If she yields to a too ardent lover she may contract a serious disease. Only full knowledge can adequately assist her. Experience, says Morrow, shows that thousands suffer physical and moral wreckage from trusting to blind instinct, as the sole and sufficient guide for its regulation.

The danger of sexual exploitation of young girls, by certain men, is much greater the less the girls are instructed about the social dangers and the physiological consequences of a chance acquaintance. The girl ought to be taught that one mistake blasts a young girl's life. Let a young woman stray but once from the path of virtue, or let there be even one breath of suspicion against her virtue, whether well founded or not, and there is no forgiveness for her in this world. She has suffered an irretrievable loss. Her greatest enemy, in such a case, is woman herself. Society admits the acknowledged libertine to its most exclusive circles, but forever ostracises the woman whose one false step has been found out. The man may emerge from the mire of dissipation without a

spot of social shame upon his character, for the woman, there is no return. Shame and degradation follow her even to the grave.

If the girl further knew the physiological consequences of her transgression, if she knew that she may become gravid, and thus publish to the world the folly she has been guilty of, such cases as are often seen in maternity hospitals of girls between the ages of 12-15 years being pregnant, without knowing the nature of the sex relation, would never happen. Lewis says: absolute ignorance of the existence even of venereal diseases usually obtains in the case of the young girls, many of whom have no adequate idea of the result of intercourse, because no one has told them. He has known girls of 13 and 14 years of age to become pregnant without realizing their condition. The author met with a gravid girl of 17 years of age who had no idea what pregnancy means and where it resulted from.

The prophylactic value of education, which has been applied to the prevention of almost all communicable diseases, would surely also be seen in this dreadful disease, this cancer of the body politic, meretricious venery, which poisons the very sources of the family and of the nation. But for the prevailing ignorance of the girls, regarding the dangers and pitfalls that beset their lives' pathway, over sixty thousand girls would not be led into a life of shame, every year, in this coun-

try. These unfortunate girls do not all come from the slums of the great cities, but many come from refined country homes. Belaschkos's statistics show that 55 per cent. of all the venal women come from the great cites and 45 per cent. from the country. Thirty-four per cent of these girls belonged to middle-class families, and 3 per cent. of them were graduates from high schools. Most of these devotees of meretricious venery have become so through the fundamental vice of laziness, and it is sentimentality pure and simple always to speak of betrayed innocence or dire poverty. Social and not economic conditions, says Nascher, are responsible for most of the prostitution in New York city. Very few are driven to it through want. The predisposing causes are vicious surroundings, the desire for pleasure, or the gratification of erotic desires and occasionally an inherent, vicious disposition. (Gibb, who examined 900 children for the society of prevention of cruelty to children has found girls of nine or ten years of age and even younger with abnormally developed instincts, who often submit willingly.) But the most serious among the factors which work together to bring many a girl to ruin is ignorance and the lack of proper education. If the girls knew that the career of the venal woman lasts scarcely ten years (Clifford G. Roe, in *Woman's World,* September, 1909, claims that the average life of these girls is about five years, ac-

cording to the best statistics), and that it is a large sewer, a garbage dump and a crematory, they would surely not be so easily led to embrace this vile profession. But the young girls are started in life entirely ignorant of all the dangers about them, and the result is this vast army of unfortunates. In this way, says Lewis, venereal diseases persist, sexual crime abounds, degeneracy remains and countless victims, year after year, pay the penalty of ignorance.

The best prophylaxis of impurity is the avoidance principally of intoxicating beverages, chance acquaintances, vanity and pleasure-seeking. The girl's attention has to be called to the danger lying in the habit of drinking intoxicating liquors. A girl has only to taste a drop of liquor in a strange man's company, and her chastity is in the greatest danger to desert her for good. It will not take very long before this girl will indulge in the excessive use of alcohol, which dulls the moral senses of men and women. The girl has further to beware of the danger of chance acquaintances. Young men of such acquaintances, in ninety-nine cases out of a hundred, will do all in their power to induce a girl to drink intoxicating drinks, and, when she has become excited by the unaccustomed beverage, to ruin her chastity. The girl must particularly be warned of the great danger lying in vanity of personal appearance. Many a girl has sold her virtue for fine clothes and outside

finery, many a girl has sold her health, morality and even her soul for a few showy bawbles. Last, but not least, there is the danger in pleasure-seeking and in an absorbing love of gaiety. Block says: The seducer is really not the particular man but the big city. The luxurious hotels, restaurants, music-halls, dance-halls, theatres, etc., and the elegant clothes of the rich allure the poor shop-girls, milliners, dressmakers and servant-girls to the career of the mistress in such big numbers that a pure girl over 25 years of age is rarely found in this class in the big cities in Europe. Alcohol, vanity and pleasure-seeking thus lead to the evil of impurity and to a life of ruin, desolation, sickness and degradation. A girl must, therefore, be made acquainted with all these pitfalls, in the outside world, before she leaves her mother's protecting presence. She has to learn above all of the high and holy function of her genital apparatus and of the sickness, shame and sorrow which are sure to follow any profanation of these functions.

Even the girl who is sent away to college has to know all these dangers and pitfalls. In addition she has to be warned against the danger in the sex overvaluation of the most unhealthy sensualists of indulgence, found in the modern literature of the so-called feminists. Those novels, says Howard, that are written by the modern woman all show an itching of the sexual centre. The pas-

sion is all there, but perverted, unsatisfied, masturbatic. These writers seriously proclaim the absolute dictature of Eros as the new ethics. They wish to make man the weak slave of his or her erotic excitement. They call it in German "Sich ausleben." The genius of propagation seems to have deluded and beguiled these new moralists to proclaim their intoxication of sensuality as a new religion of the personality.

The girl who has chosen an intellectual pursuit has to be taught before leaving home that the real ethic is the defense of all external sex-values. Man is more than a mere sex-being. The spiritual kind of virginity is the one which consists in the sensual affairs not being dominating, exacting or filling the inner life. The Jewish philosopher, Philo of Alexandria in Egypt, says: By the company of the virgin with man she becomes a woman, by the soul's company with God the woman becomes again a virgin. Such are the lessons the young girl should take along, when she leaves home, that she may be protected against the doctrines of sensual hyperestheticisim of the modern writers.

The necessity of self-control and of chastity must be impressed not only upon the mind of the young woman, but also upon the young man as the only way to secure the strong mental and physical qualities for the future paternal and maternal relations.

There is not the slightest shadow of support, in any teachings of physiology or hygiene, for the present double standard of morality of the sexes. As the author has shown in another place, the demand for strict female chastity originally depended upon the law of inheritance. It was required in the interest of posterity. But since the arrival of syphilis in Europe with Columbus' men in 1495, the interest of posterity requires even stricter chastity in the man than in the woman. There is no reason anyhow why a moral wrong in the woman should be a justifiable necessity with the man. From no medical studies or investigations, anywhere attainable, would the physical necessity of sowing of "wild oats" for a young man hold good. If we admit that, as far as the gentler sex is concerned, continence is compatible with health, then the general belief of young men that sensual indulgence is necessary for healthy manhood, has no justification in physiology. Purity is as little injurious to a man as to a woman. It is a most absurd and erroneous teaching that, unless inclination is gratified, a man's health will suffer. No man was ever the worse for continence. The opinion that continence is harmful because every muscle, not used, atrophies is entirely erroneous. The essential organs of generation are glands, like the tear glands or the mammary glands, their function is intermittent and depends upon certain stimuli. The tear glands do not

atrophy, even if a man has not cried for years. The instinct of generation has been compared with the instinct of hunger and thirst, and as the latter must be satisfied, so must the former be gratified. But there is no proper parallelism between these two instincts. Food and drink are vital necessities to replace the stuffs consumed in the metabolism of the vital functions; the generative instinct does not serve any vital necessity. This instinct could, if at all, only be compared with the instinct of micturition or defecation, and the relief of the physical pressure in the generative organs is brought about by the self-regulating action of nocturnal emissions. It may be more natural and agreeable for a healthy man or woman, after they have reached a certain age, to indulge in the exercise of their organs of generation at reasonable intervals, than to abstain from it. But to proclaim that this abstinence is healthy for women and injurious to men is sheer absurdity. It is especially hard to understand how any medical man could recommend to a young man to resort to illicit relations for health and to jeopardize his own health and that of his future family, in view of the fact that the indiscriminate union of prostitution is the cause of sexual disease in at least sixty out of every hundred young men. If it is justified to recommend illicit relations to young men, as a cure for masturbation, instead of explaining to him that a healthy hygiene and

the exercise of his will-power will make easy the control of the desire without any loss of health, then why not recommend the same remedy to young women? Continence is no more injurious to the man than to the woman. The conventional view that incontinence in men is a necessary condition of health must be corrected. Instead of the popular fallacy that a young man is physically the worse for a clean, moral life, the entire weight of evidence of the world's foremost medical scholars is unreservedly of the opinion that he is physically better for it. It is recognized by the highest authorities that continence is perfectly compatible with the most perfect health. Chastity properly understood is health, it never does any harm either to mind or body.

Abstinence, says Forel, or sexual continence is by no means impractical for a normal young man of average constitution, assiduous in intellectual and physical work and abstaining from artificial excitations. When sexual maturity is complete, continence is usually facilitated by nocturnal emissions. In these wet dreams the seminal fluid in men and the secretions of the genital glands in women are thrown off. These emissions take place in every healthy person at periodic intervals, the length of time between the emissions depending upon the peculiarities of temperament, habits and conditions of life. The health does not suffer in any way from these emissions. They are a

purely physiological process just as menstruation.

The sexually normal man, says Loevenfeld, who has not weakened his power of resistance against sensual impressions by sensual abuse, is able to stand lasting abstinence without any harm, provided he is leading a regular, industrious and hygienic mode of life. His continence is the easier the more consistently it is carried through under all circumstances.

Even those who are predisposed to nervousness, says Aschaffenborg, do not suffer any harm from sexual continence if the impression is awakened in them that abstinence can never be injurious.

Moll says: At the present time, most medical men agree that sensual abstinence, in a general way, is not harmful and that it has an injurious effect only upon a small minority. This minority consists of people suffering from sexual hyperaesthesia and so dominated by this anomaly that they are kept back from every activity whatsoever.

Hutchinson says: The belief that the exercise of the sex function is necessary to the health of the male, at any age, is a pure delusion, while before full maturity it is highly injurious.

Ruggles says: Sexual abstinence is compatible with perfect health and tends to increase virility through reabsorption of the semen.

Jacobsohn wrote over two hundred letters to professors of physiology, hygiene, venereal diseases, internal diseases, nervous diseases and insanity for

their opinions, concerning male sexual continence. All answers with a very few exceptions declare continence conducive to health.

Pflüger answers: If all the authorities of the world should proclaim the innocuousness of continence it would have no influence upon youth, for forces are here active which will break every obstacle.

Thus Pflüger admits that continence is compatible with perfect health and only thinks that the force of sensuality would sweep aside all recommendations of abstinence. Now, about the possibility of total continence, there may be a great difference of opinion. But granted absolute abstinence is only an ideal, no ideal can be realized, otherwise it would not be an ideal. We can only approach an ideal, and this would be a great gain in regard to sensual continence. Nacke says, that absolute sexual abstinence is an utopia just as the total abolition of prostitution, public and clandestine, or the absolute abstinence of alcohol. Man's impulses are too powerful, but they may be restrained and kept in proper bounds.

Muchin answers to Jacobsohn's letter that the opinion of the injurious effect of sensual continence is not only entirely groundless prejudice, but very dangerous from the ethical and sanitary point of view. Kraepellin answers that continence is not injurious, and that its advantage in avoiding venereal infection is apparent. Gaertner also does

not think that sensual continence is injurious to young men. Cramer writes: Sensual continence before marriage is not injurious. Finkler answers that sensual continence is not injurious to young men but, on the contrary, profitable to body and mind. Lassar also thinks that sensual continence is not injurious to young men. Seifert says, his experiences teach him that continence is not injurious. Gruber says: Sensual gratification is surely natural, but this is no reason why continence should be injurious. Jürgensen thinks that sensual continence per se is not injurious. Hoffmann considers sensual continence useful. Strümpell thinks that sensual continence is not directly but indirectly useful by preventing venereal infection, but it is surely not injurious. Tuczek is of the opinion that sensual continence is useful. Prof. v. Leyden says that, in his experience, he has never seen injurious consequences from sensual continence. Hein says that in most men sensual continence is not injurious. Prof. v. Grützner writes that in his opinion sensual continence is almost never injurious. Prof. Meschede, during 47 years in his psychiatric practice, has never seen a case of insanity caused by sensual continence. The plethora of semen is prevented by nocturnal pollutions which have the effect of a safety-valve. Weber writes that sensual continence is not injurious to healthy young men, but on the contrary useful. Hoche is of the opinion

that sensual continence is not injurious to young men and does not lead to masturbation. Neisser says: Most of our young men could remain continent much longer than is the case nowadays.

Finger in "Sexual Probleme" also thinks that as far as syphilis is concerned there can not be any question of continence but of sexual moral dissoluteness of our youth. For of men infected with syphilis, almost sixty per cent. are in the age from 15-21 years, and only 25 per cent. in the age of 21-23 years, thus in an age when sexual maturity has not as yet been reached.

This statistic shows that it is not at all the question about the men being continent, but about the boy controling early passions. The man is always able to control his passions. The more healthy, says Chassaignac, and the nearer the normal an individual is, the better he can not only control his passions, but the less is his condition likely to be disturbed by continence. It is the neurasthenic who is most prone to be upset by an attempted or enforced continence and who, as well, is most given to excess.

The international Brussels congress also declared that a clean moral life for a man is not prejudicial to the health, but on the contrary, is to be recommended from a purely hygienic point of view.

Thus it is the consensus of most of the great medical thinkers that it is not preju-

dicial to the health of a man to keep his body clean until he has found a true mate in life. The boy who has just passed adolescence ought, therefore, to learn that the injudicious premature use of the organs of generation is prejudicial to his health and brings dangers with it. There is a great distinction between puberty and nubility, and the boy must learn to check his sensual impulse until marriage, which is not so hard to accomplish.

There are enough sexual stoics in the world to prove by practical experience that continence is possible. Caesar says of the ancient Teutons, "ante annum vicesimum sextum feminis notionem habere inter res turpissimas habeatur," "it was considered one of the most shameful things to have any relations with a woman before the twenty-sixth year of age." Yet no one will dispute that the ancient Teutons were strong and healthy. These ancient barbarians seem to have learned by experience that before this age sexual maturity is not yet complete. In fact, Eulenburg found that the combined statistics teach that complete sexual maturity is reached by the woman only after the twentieth year of age, and by the man not before the twenty-fifth year.

Besides the historic proof there are daily examples which show the compatibility of chastity with health at any age. Many young men, engaged to be married, remain chaste for long pe-

riods without detriment to their health, although often living in continuous sensual excitement. Patients suffering from venereal diseases abstain during long periods of treatment without any impairment of health. Men remain chaste and healthy during long periods when their wives are ill. Athletes, training for some physical contest, remain in enforced continence and yet healthy. Seafaring men are often continent for long periods without injury.

These few examples show that abstinence is not detrimental to health. In fact no other condition of life is more thoroughly consistent with perfect mental and physical vigor than absolute chastity. The instinct only needs to be controlled. Continence is only a matter of habit. When the young man has not been debased by vile practices, it is usually a comparatively easy task to be continent and requires no extraordinary effort. Besides every year of voluntary effort at chastity renders the task easier by force of habit. The Talmud knew this when it said

"אבר קטן יש באדם משיבעו רעב ומרעיבו שבע"

"There is a small member in the body of a man which is always hungry if one is trying to satisfy it, and is always satisfied if one starves it."

Hence when the young man has been taught the advisability of sensual control, when the positive assurance has been given to him that total abstinence can be maintained without loss of power

and when his fears of impairing his health and potency have been dispelled, he will exercise his will-power and refrain from a departure from moral standards.

In our big cities sensual control is surely made very hard for the young man. The unfortunate phase of the life in a large city is that it introduces the youth to temptations and vicious conditions. Vice is obtruding upon him at every nook and corner. A vile so-called literature, a suggestive perverse art and an obscene stage panders his sensual curiosity. But because, forsooth, it is hard to control that does not mean that he has to yield to temptation. It is true that the sexual appetite may assume imperiousness, but only when the imagination is constantly fed by lascivious thoughts and sensual images.

But the trouble is not, says Siebert, that boys and girls become sensually mature earlier than they could judiciously enter into matrimony, the trouble lies in the fact that boys can not see why they should abstain from a tickling amusement, and that girls are haunted by the menacing prospect of being condemned to lead a barren unnecessary existence, where the flower might wither without bearing the proper fruit. Herein lies the greatest obstacle to continence, the youth does not know the ethical "why," especially in our modern times with its religious laxity. The ethics of religion, even in its best days, had not had the power

to control sensual passion and create total abstinence, although religion has preached the same for the last two thousand years. In modern times with the almost divine worship of the personality of the individual the religious motive for chastity seems to fail entirely.

Hence we will have to try the ethics of sex-hygiene and the ethics of evolution. If the theory of evolution is right, and the purpose of our being in this world is to assert life, then the aim of life can not be the single individual but the species, i. e., the offspring. The child, therefore, or what is here the same, the family will have to furnish the motive for man's continence. The importance to the family of the chastity of women has been recognized from the earliest history, as shown by the author in a former essay. Now it is time to teach the man the importance of his chastity to the family, state and nation. The average man, says Hepborn, in his heart, does not acknowledge to himself that there is any competent reason why he should control his passion beyond the sentimental idea of the justice of men's remaining chaste if they require it of women. It must, therefore, be shown to the man that there is also an important racial reason for him to abandon promiscuous life.

If it is shown to the young man, at a time when his heart and mind are still in thrall of the early and eternal poetry of the race, that it is as im-

portant to humanity that he should be chaste as it is for the woman to be pure, then he will refrain from illicit indulgence. The young man will surely require settled principles, a firm purpose and a strong will, if he desires that sensual passions and propensities should not dominate and control him. But if the training of his will-power has begun from early childhood, thus effecting the needed self-discipline, and if disgust against everything vulgar, as the company of lax women, has been implanted in his heart, he will find the means to get out of the way of vice and to avoid the contamination by meretricious venery. The latter will surely infect him, it being only a matter of time when it happens. The young man will exercise continence if he has been taught that his sensual yearnings are to be restrained like his propensity to overeat, to overdrink or to overexercise. Because he wants a thing, says Keyes, it is not, therefore, necessarily good for him that he should have it, but often harmful. The imperious instinct which decrees the perpetuation of the race, says Lewis, can be controlled and directed aright by the consistent knowledge of the truth. When the young man has been taught the dignity of virility, when he has learned that purity is conducive to bodily development, while vice carries with it the most serious diseases in its train and the danger not only to ruin his own life but also the health of his future bride and of the entire

progeny, he will not stoop to vice for the gratification of his desires. The average man, says Morrow, is not a criminal, he does not wreck the life and health of his wife and children knowingly and wilfully. In most cases he does it through ignorance of the nature and terrible consequences of the disease.

If the young man has learned in time the responsibility and duty of the man towards the woman, if he has been made aware of the fact that one false step ruins the girl irremediably for her entire life, he will, under no circumstances, ever seduce an innocent girl. He will treat every woman he meets with in life as he wishes his own sister or future wife to be treated by others.

The young man has to learn that every union of bodies without the harmony of the souls is humiliating and immoral. That does not mean that we should impart the idea to our youth that the sexual impulse is something low and bestial, as some moralists would like us to believe. On the contrary, we must teach our youth that a healthy and natural exercise of the human organism is a precious blessing that must not be squandered and recklessly defiled. We must teach the young man that for the future offspring's sake the monogamic marriage is the only one which the ideal man will resort to. Promiscuity destroys the relations of the young companionship. To form the healthy

germ of society marriage must be unitary and permanent.

The leading of an hygienic life will help the young man a great deal to remain continent until marriage. He will have to avoid all stimulating food and he will have to use drinks as coffee, tea and alcohol with great moderation. The employment of cold sponging, daily cold baths and vigorous muscular exercise will greatly facilitate continence. Above all, the avoidance of all sensual thoughts and fancies is of great importance. The constant concentration of the mind upon sensual thoughts and images establishes a condition akin to genuine masturbation. This constant dwelling upon sensual images and thoughts, which constitute mental masturbation, weakens the power of resistance and must, therefore, be strictly avoided.

One of the best means to prepare the youth for family life is coeducation. The familiar intercourse of boys and girls in the kindly presence of their teachers is of great advantage. To prevent or appease the morbid craving of a natural appetite it is only necessary that the sexes should commingle without too much restraint by conversing, singing or even dancing in a decent orderly manner. Coeducation effects the development of relations between the sexes free from sensual passions. The daily coexistence of the sexes diminishes the sexual appetite and prevents masturbation and homosexuality. The daily association of

boys and girls in the class room has the effect of making the sexes regard one another with a feeling of indifference. Children do not feel themselves as sex beings, and their fellowship excludes entirely any sensual excitation. If both sexes are in constant company, sensual inclinations will arise much later, just as there is no erotic feeling among brothers and sisters. Young people who have met in the august presence of wisdom and science, who have assisted each other in the noble operations of the intellect in unraveling the problems of the ages and in building the structure of the social world will have the proper knowledge of each other's character and the true insight into sympathy and compatibility. The phantasy would not be so heated in forming a picture of the other sex, and youthful indiscretions, when both sexes get out into the world, would be of very rare occurrence. The mischief arising from the separation of the sexes during the period of education is such as to make their coeducation a necessity. The mystery now existing among the sexes creates the desire to solve it. The sexes are then carried away by the ardor of the chase. Coeducation removes the mystery and does away with the chase. The forbidden fruit loses its charm as soon as it appears no longer to be forbidden. Coeducation thus produces the cool purity of experience which is more lovely and more healthy than the hectic intensity of repression.

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